

**EPA REGISTRATION NUMBER 524-475 – VOL. 3**

# Monsanto

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Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 10, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Preharvest Applications in Corn**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows preharvest applications in corn, was approved by the Agency on March 28, 1997.

Enclosed are five (5) copies of the label (version 21137U1-34).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

258319

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 3/28/97
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Preharvest applications in corn

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 733-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  
2. Signature 		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date April 10, 1997	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.  
**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "mended," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.



## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



NOT REVIEWED  
In Accordance with PR Notice 82-2,  
Based on Draft Labeling Dated

EPA Reg. No. 524-475

3/28/97

### PREHARVEST APPLICATIONS IN CORN

Keep out of reach of children.

#### **CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

#### **RECOMMENDATIONS**

This product may be used prior to harvest of corn to control annual and perennial weeds listed on the label booklet for Roundup Ultra herbicide.

For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 1 quart of this product per acre.

Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). Allow a minimum of 7 days between application and harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES"

section of the label booklet for instructions.

NOTE: It is not recommended that corn grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U1-34

3/28/97

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# Monsanto

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Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 10, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Preharvest Applications in Corn**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra RT herbicide for your files. This label, which allows preharvest applications in corn, was approved by the Agency on March 28, 1997.

Enclosed are five (5) copies of the label (version 21138U1-9).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

258321

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 3/28/97
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Preharvest applications in corn

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container		<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (include Area Code) (202) /83-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		2. Date Application Received (Stamped)  6
2. Signature Sheila A. Schuette	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date April 10, 1997	

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4. Five copies of draft labeling;
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**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-top", reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



EPA Reg. No. 524-475

NOT RECOMMENDED  
for use on corn. This product is not  
approved for use on corn.

8/28/97

### PREHARVEST APPLICATIONS IN CORN

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used prior to harvest of corn to control annual and perennial weeds listed on the label

booklet for Roundup Ultra RT herbicide.

For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 1 quart of this product per acre.

Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). Allow a minimum of 7 days between application and harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

NOTE: It is not recommended that corn grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21138/11-9

3/28/97

8

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 10, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Preharvest Applications in Grain Sorghum (Milo)**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra RT herbicide for your files. This label, which allows preharvest applications in grain sorghum (milo), was approved by the Agency on March 28, 1997.

Enclosed are five (5) copies of the label (version 21138U1-10).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

258322

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 3/28/97
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Preharvest applications in Grain Sorghum (Milo)

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container	<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (702) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment, or both under applicable law.			7. Date Application Received (Stamped)  <div style="text-align: right; font-size: 2em;">10</div>
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date <i>April 10, 1997</i>	

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1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
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**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.



## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



NOT REVIEWED  
in Accordance with PR Notice 82-2,  
Based on Draft Labeling Dated

~~7/1/97~~  
3/28/97

EPA Reg. No. 524-475

### PREHARVEST APPLICATIONS IN GRAIN SORGHUM (MILO)

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used prior to harvest of grain sorghum (milo) to control annual and perennial weeds listed on the label booklet for Roundup Ultra RT herbicide.

Apply up to 2 quarts of this product per acre.

Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

NOTE: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

2113R11-10

3/28/97

12

# Monsanto

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Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 10, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Preharvest Applications in Grain Sorghum (Milo)**


Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows preharvest applications in grain sorghum (milo), was approved by the Agency on March 28, 1997.

Enclosed are five (5) copies of the label (version 21137U1-35).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

258320

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 3/28/97
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Preharvest applications in Grain Sorghum (milo)

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date April 10, 1997	14

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). If not exempted by 40 CFR 152.81 (b) (4);
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "mecc," reregistration, etc.

- 1-5. Self-explanatory.
  6. EPA Use Only.
- 15

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



NOT REVIEWED  
In Accordance with FR Notice 82-2,  
Based on Draft Labeling Dated

3/28/97

EPA Reg. No. 524-475

### PREHARVEST APPLICATIONS IN GRAIN SORGHUM (MILO)

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used prior to harvest of grain sorghum (milo) to control annual and perennial weeds listed on the label booklet for Roundup Ultra herbicide.

Apply up to 2 quarts of this product per acre.

Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

NOTE: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U1-35

3/28/97

1b

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 28 1997

Dr. Sheila A. Schuette  
 Monsanto Company  
 700 14th Street, N.W. Suite 1100  
 Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Over The Top Roundup Ready Corn)  
 EPA Registration No. 524-475  
 Your Application Dated March 9, 1997

The amendment referred to above, submitted in connection with registration under section 3 (c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Will submit, upon EPA's request and according to a schedule determined by the Agency, such information as the Agency directs to be submitted in order to evaluate issues related to whether glyphosate shares a common mechanism of toxicity with any other substance and, if so, whether any tolerances for glyphosate need to be modified or revoked.
2. You will submit information to address the following questions.
  - a. Whether or not this registration will increase the use of herbicides.
  - b. Whether or not this registration will effect prsently used cultural practices such as no till.
3. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on over the top of Roundup ready corn is conditionally registered, in accordance with FIFRA Section 29. The fiscal year begins October 1 and ends September 30. Production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

CONCURRENCES							
SYMBOL	2505C						
SURNAME	VXWAllen						
DATE	3/28/97						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

\*U.S. GPO : 1986-159-310

This information should be submitted to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Document Processing Desk (RSE)  
401 M Street SW., CM#2  
Washington, DC 20460

Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labels are enclosed for your records.

This registration expires four (4) years from the date of this letter.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra, container labels and this supplement.

## ROUNDUP® ULTRA

Herbicide by Monsanto

EPA Reg. No. 524-475

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### FOR POSTEMERGENCE APPLICATIONS TO CORN WITH THE ROUNDUP READY® GENE

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Keep out of reach of children.

### CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

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® Roundup is a registered trademark of Monsanto Company. Roundup Ready® is a registered trademark of Monsanto Company.

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### DIRECTIONS FOR USE

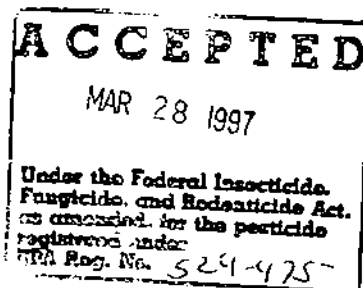
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It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

~~NOTE: THIS PRODUCT MAY BE USED ONLY OVER THE TOP OF IMPROVED CORN VARIETIES THAT ARE DESIGNATED AS CORN WITH THE ROUNDUP READY® GENE. SEVERE INJURY OR DEATH OF CORN WILL RESULT IF ANY CORN VARIETIES NOT DESIGNATED AS HAVING THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, OR ANY DESIRABLE PLANTS AND TREES OTHER THAN CROPS WITH THE ROUNDUP READY GENE, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.~~

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.





GENERAL INFORMATION

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT ONLY ON CORN SEED DESIGNATED AS CONTAINING THE ROUNDUP READY® GENE.

• Applying this product to corn varieties which are not designated as Roundup Ready® will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene since severe injury or destruction will result.

• Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" corn seed saved from previous year's production and replanted.

• The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to Monsanto's Roundup brand herbicides. Information on Roundup Ready corn may be obtained from your seed supplier or Monsanto representative.

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## Application Instructions

This product may be applied postemergence to Roundup Ready corn during the period beginning at corn emergence and continuing through the 12-leaf stage or until corn height reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product should not exceed 2 quarts per growing season. Total Roundup Ultra use should not exceed 8 quarts per acre per year.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 14 days between in-crop applications of this product. THE USE OF ADDITIVES FOR IN-CROP APPLICATIONS TO ROUNDUP READY CORN IS PROHIBITED.

### Maximum Yearly Rates Allowed

Preplant / Preemergence (Maximum) .....	5 quarts/A
Total in-crop applications from emergence to 12-leaf stage or 30 inches .....	2 quarts/A
Maximum preharvest rate. ....	1 quart/A
<hr/>	
Combined total per year for all applications. ....	8 quarts/A

When applied as directed, this product controls annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of the label booklet. Refer to the "MIXING" section of the label booklet for proper use instructions.

There are no rotational crop restrictions following applications of this product.

**ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift, or splash onto other desirable vegetation since minute quantities of this product can cause severe damage or destruction to crop plants in non-target areas. The likelihood of plant injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions which allow spray drift to occur such as combinations of pressure and nozzle type that will result in fine particles (mist) which are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR SPRAY PRESSURE.**

For ground applications: Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. See "WEEDS CONTROLLED" section of this label for specific recommended rates. Carefully select proper nozzles and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

For aerial applications: Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See "WEEDS CONTROLLED" section on this label. **AVOID DRIFT - DO NOT APPLY DURING INVERSION CONDITIONS, WHEN**

WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

### **Weeds controlled**

For specific rates of application and instructions for control of various annual and perennial weeds, refer to the label booklet. Roundup Ultra applied at up to 1 quart per acre will burndown or suppress the growth of the following perennial weeds and reduce crop competition: nutsedge, rhizome johnsongrass, quackgrass, Canada thistle, wirestem muhly.

**Sequential Applications:** Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product. The second application should be made after some regrowth has occurred.

### **Tank mixtures**

A tank mixture of Roundup Ultra plus Micro-Tech or Partner may be used for postemergence and residual control of annual weeds in corn. These tank mixtures may be made during the period beginning at corn emergence and continuing until corn height reaches 5 inches.

A Roundup Ultra tank mixture with atrazine, Banvel, Clarity, Permit or 2,4-D may be used for postemergence control of additional annual weeds in corn. A Roundup Ultra tank mixture with atrazine may be made during the period beginning at corn emergence and continuing until corn height reaches 12 inches. A Roundup Ultra tank mixture with Banvel or Clarity at 0.125 to 0.25 lb per acre may be made during the period beginning at corn emergence and continuing until corn height reaches 30 inches. A Roundup Ultra tank mixture with Permit may be made during the period beginning at corn emergence and continuing until corn height reaches 30 inches. A Roundup Ultra tank mixture with 2,4-D at 0.125 to 0.25 lb per acre may be made during the period beginning at corn emergence and continuing until corn is at the five leaf stage or corn height reaches 8 inches, whichever comes first.

**Refer to the specific product label and observe all precautions, mixing and application instructions for all products used in tank mixtures.**

**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

© Monsanto Company 1997-1996

MAP

MONSANTO COMPANY  
AGRICULTURAL PRODUCTS  
ST. LOUIS, MISSOURI 63167

# Monsanto

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Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

March 9, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Acting Product Manager 25

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Use of Glyphosate Over the Top of Roundup Ready Corn**  
**Submission of a Revised Supplemental Label**

Dear Sir:

Monsanto is submitting a revised supplemental label for the use of Roundup Ultra herbicide over the top of Roundup Ready Corn. This label is similar to that which was submitted on July 8, 1996, except that the General Information section has been modified so that prohibitions against use of this product on corn varieties other than Roundup Ready® are advisory in nature and not prohibitory.

Monsanto requests that the Agency review the enclosed label and approve this registration. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248



United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

Applicant's Name and Address

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

EPA File Symbol/Registration Number

Product Name

Roundup Ultra Herbicide

Date of Application

March 9, 1997

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,

☒ I am the original submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study,

a. ☒ I am the original data submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*; or

b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)

☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)

☐ Those companies that have submitted the studies which I have cited (Selective method\*).

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

*Sheila A. Schuette*

Name and Title

Sheila A. Schuette  
Manager, Regulatory Affairs

Date

*March 9, 1997*

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

*24*



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

252235

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

\*Submission of a revised supplemental label for use of glyphosate over the top of Roundup Ready corn

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulations Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)  <div style="font-size: 2em; text-align: right;">25</div>
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette	5. Date <i>March 9, 1997</i>	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicated the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SECTION C

### DATA REFERENCE LIST

Glyphosate 40 CFR 158 Data Reference List



**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY		DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>PRODUCT IDENTITY:</b>							
61-1	Product Identity & Disclosure of Ingredients (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-1	Product Identity & Disclosure of Ingredients (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
61-2	Beginning Materials and Manufacturing Process (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-2	Beginning Materials and Manufacturing Process (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
61-3	Formation of Impurities (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-3	Formation of Impurities (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
<b>ANALYSIS AND CERTIFICATION OF INGREDIENTS:</b>							
62-1	Preliminary Analysis (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-1	Preliminary Analysis (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
62-2	Certification of Limits (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-2	Certification of Limits (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
62-3	Analytical Methods for Enforcement of Limits (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-3	Analytical Methods for Enforcement of Limits (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
<b>PHYSICAL AND CHEMICAL CHARACTERISTICS:</b>							
63-2	Color (MP & TGA1)	+	263795	6/30/86	R.D. 690	Monsanto	
63-2	Color (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-3	Physical State (MP & TGA1)	+	263795	6/30/86	R.D. 690	Monsanto	
63-3	Physical State (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-4	Odor (MP & TGA1)	+	263795	6/30/86	R.D. 690	Monsanto	
63-4	Odor (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	

ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY		DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
PHYSICAL AND CHEMICAL CHARACTERISTICS (CONT.):							
63-5	Melting Point (TGAI)	+	96177	6/1/76	R.D. 102	Monsanto	
63-6	Boiling Point (TGAI)	NR					
63-7	Density, Bulk Density or Specific Gravity (MP & TGAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-7	Density, Bulk Density or Specific Gravity (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-8	Solubility (TGAI or PAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-9	Vapor Pressure (TGAI or PAI)	+	41096101	5/10/89	R.D. 924	Monsanto	
63-10	Dissociation Constant (TGAI or PAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-11	Octanol/Water Partition Coefficient (PAI)	+	234109	6/5/78	R.D. 181	Monsanto	
63-12	pH (MP & TGAI)	+	254433	7/30/84	R.D. 542	Monsanto	
63-12	pH (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-13	Stability (TGAI)	+	254433	7/30/84	R.D. 542	Monsanto	
63-14	Oxidizing or Reducing Action (MP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-14	Oxidizing or Reducing Action (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-15	Flammability (MP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-15	Flammability (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-16	Explosibility (MP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-16	Explosibility (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-17	Storage Stability (MP)	+	254433	7/30/84	R.D. 542	Monsanto	
			41573601	7/27/90	R.D. 1006	Monsanto	
63-17	Storage Stability (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-17	Storage Stability (PAI)	+	40502605	1/29/88	R.D. 848	Monsanto	
	(In Plants, Animal Products, and Water)		40532004	2/23/88	R.D. 855	Monsanto	
			41472002	4/2/90	R.D. 977	Monsanto	
			41573501	7/25/90	R.D. 1005	Monsanto	
			41940701	7/12/91	R.D. 1051	Monsanto	
63-18	Viscosity (MP)	NR					

Contains Trade Secret or Otherwise Confidential Information of Monsanto Company

**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY		DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>PHYSICAL AND CHEMICAL CHARACTERISTICS (CONT.):</b>							
63-18	Viscosity (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-19	Miscibility (MP)	NR					
63-19	Miscibility (EP)	NR					
63-20	Corrosion Characteristics (MP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-20	Corrosion Characteristics (EP)	+	41642301	9/19/90	R.D. 1001	Monsanto	
63-21	Dielectric Breakdown Voltage (EP)	NR					
64-1	Submittal of Samples (PAI)	+				Monsanto	

NR = Not Required / See Explanation Sheet

**EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION**

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY

63-6	Boiling Point (TGA1)	Data is required only if the technical material is a liquid at room temperature. Glyphosate is a solid.
63-18	Viscosity (MP)	Data is required if the material is a liquid. Glyphosate is a solid.
63-19	Miscibility (MP)	Data is required if the material is an emulsifiable liquid. Glyphosate is a water-soluble solid.
63-19	Miscibility (EP)	Data is required if the product is an emulsifiable liquid. Roundup herbicide is a ready-to-use liquid, not to be diluted.
63-21	Dielectric Breakdown Voltage (EP)	Data is required for liquid products that are used around electrical equipment. When Roundup is applied as a herbicide there is virtually no circumstance where it would be in contact with electrical equipment.

**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.340 TOXICOLOGY	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>ACUTE TESTING:</b>						
81-1 Oral LD <sub>50</sub> - Rat (MP & TGAI)	+	41400601	2/6/90	R.D. 976	Monsanto	
81-1 Oral LD <sub>50</sub> - Rat (EP)	+	41642302	9/19/90	R.D. 1001	Monsanto	
81-2 Dermal LD <sub>50</sub> (MP & TGAI)	+	41400602	2/6/90	R.D. 976	Monsanto	
81-2 Dermal LD <sub>50</sub> (EP)	+	41642303	9/19/90	R.D. 1001	Monsanto	
81-3 Inhalation LC <sub>50</sub> - Rat (MP & TGAI)	NR					
81-3 Inhalation LC <sub>50</sub> - Rat (EP)	+	41642306	9/19/90	R.D. 1001	Monsanto	
81-4 Primary Eye Irritation - Rabbit (MP)	+	41400603	2/6/90	R.D. 976	Monsanto	
81-4 Primary Eye Irritation - Rabbit (EP)	+	41642304	9/11/90	R.D. 1001	Monsanto	
81-5 Primary Dermal Irritation (MP)	+	41400604	2/6/90	R.D. 976	Monsanto	
81-5 Primary Dermal Irritation (EP)	+	41642305	9/19/90	R.D. 1001	Monsanto	
81-6 Dermal Sensitization (MP)	(NR)	00137138	12/20/83	R.D. 515	Monsanto	
81-6 Dermal Sensitization (EP)	+	41642307	9/19/90	R.D. 1001	Monsanto	
81-7 Acute Delayed Neurotoxicity - Hen (TGAI)	NR					
81-7 Acute Delayed Neurotoxicity - Hen (EP)	(NR)	00054494	12/22/76	R.D. 108	Monsanto	
<b>SUBCHRONIC TESTING:</b>						
82-1 90-Day Feeding - Rodent (TGAI)	+	40559401	3/16/88	R.D. 860	Monsanto	
82-1 90-Day Feeding - Nonrodent (TGAI)	+	94161	7/12/74	R.D. 51	Monsanto	
82-2 21-Day Dermal (TGAI)	+	00098460	3/22/82	R.D. 413	Monsanto	
82-2 21-Day Dermal (EP)	+	00067045	7/12/74	R.D. 51	Monsanto	
		00067046	7/12/74	R.D. 51	Monsanto	
		00108128	7/12/74	R.D. 51	Monsanto	
82-3 90-Day Dermal (TGAI)	NR					
82-4 90-Day Inhalation - Rat (TGAI)	NR					
82-5 90-Day Neurotoxicity - Hen (TGAI)	NR					
82-5 90-Day Neurotoxicity - Mammal (TGAI)	NR					

ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.340 TOXICOLOGY		DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
CHRONIC TESTING:							
83-1	Chronic Feeding - Rodent (TGAI)	+	41643801	9/26/90	R.D. 1014	Monsanto	
			41728701	12/17/90	R.D. 1014	Monsanto	
83-1	Chronic Feeding - Nonrodent (TGAI)	+	00153374	10/17/85	R.D. 636	Monsanto	
			00153374	8/11/86	R.D. 698	Monsanto	
83-2	Oncogenicity Study - Rat (TGAI)	+	41643801	9/26/90	R.D. 1014	Monsanto	
			41728701	12/17/90	R.D. 1014	Monsanto	
83-2	Oncogenicity Study - Mouse (TGAI)	+	251007-14	7/29/83	R.D. 480	Monsanto	
			00150564	10/7/85	R.D. 635	Monsanto	
			260023	10/28/85	R.D. 643	Monsanto	
83-3	Teratology - Rat (TGAI)	+	242516	5/13/80	R.D. 300	Monsanto	
83-3			00046362	11/15/82	R.D. 300	Monsanto	
83-3	Teratology - Rabbit (TGAI)	+	242516	5/13/80	R.D. 300	Monsanto	
83-4	Reproduction, 2-Generation (TGAI)	+	41621501	8/30/90	R.D. 1013	Monsanto	
MUTAGENICITY TESTING:							
84-2	Gene Mutation (TGAI)	+	238233	4/20/79	R.D. 236	Monsanto	
			251737	11/4/83	R.D. 504	Monsanto	
			252487	2/9/84	R.D. 504	Monsanto	
84-2	Chromosomal Aberration (TGAI)	+	00046364	5/13/80	R.D. 300	Monsanto	
			251737	11/4/83	R.D. 504	Monsanto	
84-4	Other Mechanisms of Mutagenicity (TGAI)	+	238233	4/20/79	R.D. 236	Monsanto	
			251737	11/4/83	R.D. 504	Monsanto	
SPECIAL TESTING:							
85-1	General Metabolism (PAIRA)	+	93849	11/12/73	R.D. 47	Monsanto	
			93851	11/12/73	R.D. 47	Monsanto	
			40767101-2	8/11/88	R.D. 877	Monsanto	
85-2	Dermal Penetration	(NR)	00137139-40	12/20/83	R.D. 515	Monsanto	
86-1	Domestic Animal Safety	NR					

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# **EXPLANATION OF DATA NOT REQUIRED TO SUPPORT REGISTRATION**

## 40 CFR 158.340 TOXICOLOGY

81-3	Inhalation LC <sub>50</sub> - Rat (MP & TGA1)	Requirement waived by EPA on 1/5/88.
81-6	Dermal Sensitization (MP)	Data is required if repeated contact with human skin is expected. Glyphosate is not used in a manner where such contact is likely.
81-7	Acute Delayed Neurotoxicity - Hen (TGA1)	Not required unless test material is an organophosphate, or a metabolite or degradation product which causes acetyl cholinesterase depression, or is structurally related to a substance that causes delayed neurotoxicity. Glyphosate does not trigger this requirement.
82-3	90-Day Dermal (TGA1)	<p>Data is required if use involves purposeful dermal application to, or prolonged exposure of, human skin; or if pesticidal use will involve purposeful application to human skin or will result in comparable human exposure to the product (e.g., swimming pool algicides, pesticides for impregnating clothing) and if either of the following criteria are met:</p> <p>i) Data from a subchronic oral study are not required; or</p> <p>ii) The active ingredient of the product is known or expected to be metabolized differently by the dermal route of exposure than by the oral route, and a metabolite of the active ingredient is the toxic moiety.</p> <p>Glyphosate does not trigger this requirement.</p>
82-4	90-Day Inhalation - Rat (TGA1)	Data is required if the use may result in repeated inhalation exposure at a concentration likely to be toxic. The use pattern for glyphosate does not warrant this testing.
82-5	90-Day Neurotoxicity - Hen (TGA1)	Data is required if acute delayed neurotoxicity test showed neuropathy or neurotoxicity, or if closely related structurally to a compound which can induce these effects. Glyphosate does not cause acute neurotoxicity.
82-5	90-Day Neurotoxicity - Mammal (TGA1)	Data is required if acute oral, dermal or inhalation studies showed neuropathy or neurotoxicity. Glyphosate does not trigger this testing.
86-1	Domestic Animal Safety	Required on a case-by-case basis. The known properties of glyphosate and the registered uses do not warrant this testing.

**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.490 WILDLIFE AND AQUATIC ORGANISMS		DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>AVIAN AND MAMMALIAN TESTING:</b>							
71-1	Avian Oral LD <sub>50</sub> (TGAI)	+	00108204	3/1/78		Monsanto	
71-2	Avian Dietary LC <sub>50</sub> (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
71-3	Wild Mammal Toxicity (TGAI)	NR					
71-4	Avian Reproduction (TGAI)	+	235924	11/13/78	R.D. 211	Monsanto	
71-5	Simulated and Actual Field Testing - Mammals and Birds (TEP)	NR					
<b>AQUATIC ORGANISM TESTING:</b>							
72-1	Freshwater Fish LC <sub>50</sub> (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
			97661	11/28/78	R.D. 215	Monsanto	
72-1	Freshwater Fish LC <sub>50</sub> (TEP)	+	94171	7/12/74	R.D. 51	Monsanto	
			00070894-7	3/30/81	R.D. 350	Monsanto	
			40579201-3	3/25/88	R.D. 862	Monsanto	
72-2	Acute LC <sub>50</sub> Freshwater Invertebrates (TGAI)	+	97661	11/28/78	R.D. 215	Monsanto	
72-2	Acute LC <sub>50</sub> Freshwater Invertebrates (TEP)	+	94171	7/12/74	R.D. 51	Monsanto	
			00070893	3/30/81	R.D. 350	Monsanto	
72-3	Acute LC <sub>50</sub> Estuarine and Marine Organisms (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
			97661	11/28/78	R.D. 215	Monsanto	
73-4	Fish Early Life Stage and Aquatic Invertebrate Life-Cycle (TGAI)	+	249159-60	12/20/82	R.D. 453	Monsanto	
72-5	Fish - Life-Cycle (TGAI)	+	97759	12/22/78	R.D. 220	Monsanto	
72-6	Aquatic Organism Accumulation (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
			97762	12/22/78	R.D. 220	Monsanto	
			41228300-2	9/5/89	R.D. 955	Monsanto	
72-7	Simulated or Actual Field Testing - Aquatic Organisms (TEP)	NR					

NR = Not Required / See Explanation Sheet

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EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION

40 CFR 158.490 WILDLIFE AND AQUATIC ORGANISMS

- |      |   |   |
|------|---|---|
| 71-3 | Wild Mammal Toxicity (TGA)                                      | Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement. |
| 71-5 | Simulated and Actual Field Testing -<br>Mammals and Birds (TEP) | Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement. |
| 72-7 | Simulated or Actual Field Testing -<br>Aquatic Organisms (TEP)  | Results of tier one and tier two studies with Roundup and glyphosate demonstrate that these materials have a low level of toxicity to aquatic species. Results from other studies have not triggered this requirement.  |

ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.540 PLANT PROTECTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
TARGET AREA PHYTOTOXICITY						
121-1 Target Area Phytotoxicity (TEP)	NR					
NONTARGET AREA PHYTOTOXICITY						
TIER I:						
122-1 Seed Germination/Seedling Emergence (TGAI)	+	40159301	4/10/87	R.D. 767	Monsanto	
122-1 Vegetative Vigor (TGAI)	1					
122-2 Aquatic Plant Growth (TGAI)	2					
TIER II:						
123-1 Seed Germination/Seedling Emergence (TGAI)	NR					
123-1 Vegetative Vigor (TGAI)	+	43088701	1/17/94	R.D. 1219	Monsanto	
123-2 Aquatic Plant Growth (TGAI)	+	40236901-5	6/12/87	R.D. 779- R.D. 783	Monsanto	
TIER III:						
124-1 Terrestrial Field (TEP)	NR					
124-2 Aquatic Field (TEP)	NR					

<sup>1</sup> Tier I Vegetative Vigor studies were combined with Tier II Vegetative Vigor studies.

<sup>2</sup> Tier I Aquatic Plant Growth studies were combined with Tier II Aquatic Plant Growth studies.

NR = Not Required / See Explanation Sheet

**EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION**

**40 CFR 158.540 PLANT PROTECTION**

- |       |   |  |
|-------|---|--|
| 121-1 | Target Area Phytotoxicity (TEP)                         | Data are required only for Special Review and certain public health situations.  |
| 123-1 | Tier II Seed Germination /<br>Seedling Emergence (TGAI) | Required if $\geq 25\%$ detrimental effect in one or more plant species was found in the corresponding Tier I test. Glyphosate does not trigger this requirement.  |
| 124-1 | Tier III Terrestrial Field (TEP)                        | Required if $\geq 25\%$ detrimental effect in one or more plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement. |
| 124-2 | Tier III Aquatic Field (TEP)                            | Required if $\geq 50\%$ detrimental effect on any plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement.         |

**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.590 NONTARGET INSECT	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>POLLINATORS:</b>						
141-1 Honeybee Acute Contact Toxicity (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
141-2 Honeybee - Toxicity of Residues on Foliage (TEP)	NR					
141-4 Honeybee Subacute Feeding Study (TEP)	1					
141-5 Field Testing for Pollinators (TEP)	NR					
<b>AQUATIC INSECTS:</b>						
142-1 Acute Toxicity to Aquatic Insects	2					
142-2 Aquatic Insect Life-Cycle Study	2					
142-3 Simulated or Actual Field Testing for Aquatic Insects	2					
<b>PREDATORS AND PARASITES:</b>						
143-1 thru 143-3	2					

<sup>1</sup> Reserved pending development of test methodology.

<sup>2</sup> Reserved pending further evaluation to determine what and when data should be required, and to develop appropriate test methods.

NR = Not Required / See Explanation Sheet

EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION

40 CFR 158.590 NONTARGET INSECT

- |       |   |  |
|-------|---|--|
| 141-2 | Honeybee - Toxicity of Residues<br>on Foliage (TEP) | As data from acute study indicate very low toxicity, no further testing is required. |
| 151-5 | Field Testing for Pollinators (TEP)                 | As data from acute study indicate very low toxicity, no further testing is required. |

ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.390 REENTRY PROTECTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
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REENTRY PROTECTION:

132-1	Foliar Dissipation (TEP)	NR				
132-1	Soil Dissipation (TEP)	NR				
133-3	Dermal Exposure (TEP)	NR				
133-4	Inhalation Exposure (TEP)	NR				

NR = Not Required / See Explanation Sheet

EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION

40 CFR 158.390 REENTRY PROTECTION

132-1 thru 133-4

Roundup herbicide (glyphosate) is not applied to growing crops or to soil. It is applied to undesirable grass and broadleaf weeds to control or otherwise mitigate their growth or competition with turf or ornamentals. It is unlikely that people would contact such treated vegetation on a regular or extended basis.

Based on the known low toxicity of glyphosate and Roundup and the minimal exposure from present use patterns, no reentry restrictions have been required and no additional dermal or inhalation studies have been requested.

ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.290 ENVIRONMENTAL FATE	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
DEGRADATION STUDIES - LAB:						
161-1 Hydrolysis (TGAI or PAIRA)	+	234109	6/5/78	R.D. 181	Monsanto	
PHOTODEGRADATION:						
161-2 In Water (TGAI or PAIRA)	+	41689101	11/1/90	R.D. 1020	Monsanto	
161-3 On Soil (TGAI or PAIRA)	+	41355101	12/18/89	R.D. 972	Monsanto	
161-4 In Air (TGAI or PAIRA)	NR					
METABOLISM STUDIES - LAB:						
162-1 Aerobic Soil (TGAI or PAIRA)	+	41742901	1/3/91	R.D. 1031	Monsanto	
		43272501	6/24/92	R.D. 1031 Supp	Monsanto	
162-2 Anaerobic Soil (TGAI or PAIRA)	NR					
162-3 Anaerobic Aquatic (TGAI or PAIRA)	+	41723701	12/7/90	R.D. 1029	Monsanto	
		42372502	6/24/92	R.D. 1029 Supp	Monsanto	
162-4 Aerobic Aquatic (TGAI or PAIRA)	+	41723601	12/7/90	R.D. 1030	Monsanto	
		42372503	6/24/92	R.D. 1030 Supp	Monsanto	
MOBILITY STUDIES:						
163-1 Leaching and Adsorption/Desorption (TGAI or PAIRA)	+	95789	7/12/74	R.D. 51	Monsanto	
		234109	6/5/78	R.D. 181	Monsanto	
		00064703	12/16/80	R.D. 335	Monsanto	
163-2 Volatility - Lab (TEP)	NR					
163-3 Volatility - Field (TEP)	NR					
DISSIPATION STUDIES - FIELD:						
164-1 Soil (TEP)	+	95789	7/12/74	R.D. 51	Monsanto	
		95790	7/12/74	R.D. 51	Monsanto	
		264332	8/6/86	R.D. 696	Monsanto	

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**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.290 ENVIRONMENTAL FATE	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>DISSIPATION STUDIES - FIELD (CONT.):</b>						
164-1 Soil (TEP) (Cont.)		00162922	8/7/86	R.D. 697	Monsanto	
		41096103	5/10/89	R.D. 924	Monsanto	
		42765001	5/3/93	R.D. 1165	Monsanto	
164-2 Aquatic Sediment (TEP)	+	95790	7/12/74	R.D. 51	Monsanto	
		40881601	11/9/88	R.D. 898	Monsanto	
		42383201	6/29/92	R.D. 898 Supp	Monsanto	
164-3 Forestry (TEP)	+	00084657	9/29/81	R.D. 379	Monsanto	
		246658	2/1/82	R.D. 379	Monsanto	
		00162923	6/17/83	R.D. 379	Monsanto	
		00134008	11/18/83	R.D. 506	Monsanto	
		00162923	8/7/86	R.D. 697	Monsanto	
		41552801	6/2/90	R.D. 993	Monsanto	
164-4 Combination and Tank Mixes	NR					
164-5 Soil, Long-Term (TEP)	NR					
<b>ACCUMULATION STUDIES:</b>						
165-1 Rotational Crops - Confined (PAIRA)	+	41543201-2	6/29/90	R.D. 991	Monsanto	
		42372504	6/24/92	R.D. 991 Supp	Monsanto	
165-2 Rotational Crops - Field (TEP)	+	96398	10/14/77	R.D. 141	Monsanto	
165-3 Irrigated Crops (TEP)	+	40541305	2/23/88	R.D. 856	Monsanto	
165-4 In Fish (TGA1 or PAIRA)	+	97762	12/22/78	R.D. 220	Monsanto	
165-5 In Aquatic Non-target Organisms (TEP)	+				Monsanto	

NR = Not Required / See Explanation Sheet

EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION

40 CFR 158.290 ENVIRONMENTAL FATE

161-4	Photodegradation In Air (TGAI or PAIRA)	Waived by the Agency on May 15, 1992.
162-2	Anaerobic Soil (TGAI or PAIRA)	Not required if anaerobic aquatic metabolism study has been conducted.
163-2	Volatility - Lab (TEP)	Waived by the Agency on May 15, 1992.
163-3	Volatility - Field (TEP)	Waived by the Agency on May 15, 1992.
164-4	Combination and Tank Mixes	The Agency has not requested any specific studies. However, glyphosate tank mix residue data are available under the 40 CFR 158.240 Residue Data section of this data package.
164-5	Soil Dissipation, Long-Term (TEP)	Required if pesticide residues do not dissipate readily in soil. Glyphosate has a sufficiently short half-life in soil that this study has not been required.

**ROUNDUP HERBICIDE / GLYPHOSATE**  
EPA Reg. No. 524-445

40 CFR 158.240 RESIDUE CHEMISTRY	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
171-2 Chemical Identity (TGAI)	+	41228201	8/30/89	R.D. 953	Monsanto	
171-3 Directions for Use	1					
NATURE OF THE RESIDUE:						
171-4 Plants (PAIRA)	+	Appendix A				
171-4 Livestock (PAIRA and Plant Metabolites)	+	40541301-2	2/23/88	R.D. 856	Monsanto	
171-4 Residue Analytical Method - Plants	+	364040	7/24/79	R.D. 251	Monsanto	
(TGAI and Metabolites)		00164729	10/20/86	R.D. 707	Monsanto	
		40502601	1/29/88	R.D. 849	Monsanto	
171-4 Residue Analytical Method - Animals	+	40541303	2/23/88	R.D. 856	Monsanto	
(TGAI and Metabolites)						
171-4 Residue Analytical Method - Water	+	00159419	5/19/86	R.D. 677	Monsanto	
(TGAI and Metabolites)						
MAGNITUDE OF THE RESIDUE:						
171-4 Crop Field Trials (TEP)	+	Appendix B				
171-4 Processed Food/Feed (EP)	+	Appendix B				
171-4 Meat/Milk/Poultry/Eggs (TGAI or Plant	+	40532001-3	2/23/88	R.D. 855	Monsanto	
Metabolites)						
171-4 Potable Water (EP)	+	Appendix C				
171-4 Fish (EP)	+	Appendix D				
171-4 Irrigated Crops (EP)	+	Appendix B				
171-4 Food Handling (EP)	NR					
171-5 Reduction of Residue	NR					
171-6 Proposed Tolerances	2					
171-7 Reasonable Grounds in Support of the Petition	3					

<sup>1</sup> Directions for Use are contained in the Section B of this volume.

<sup>2</sup> Proposed Tolerances are contained in Section F of this volume.

<sup>3</sup> Reasonable Grounds in Support of the Petition are contained in Section G of this volume.

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EXPLANATION OF DATA NOT REQUIRED  
TO SUPPORT REGISTRATION

40 CFR 158.240 RESIDUE CHEMISTRY

171-4 Food Handling (EP)

Data on residues in food or feed in food handling establishments are required whenever a pesticide is to be used in food/feed handling establishments. Glyphosate end-use products are not used in such establishments.

171-5 Reduction of Residue

Reduction of residue is required when the assumption of tolerance level residues results in an unsafe level of exposure. The registered uses of glyphosate do not trigger this requirement.

APPENDIX A  
NATURE OF THE RESIDUE: PLANTS  
ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.240 RESIDUE CHEMISTRY	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>171-4 NATURE OF THE RESIDUE</b>					
Corn	094181	12/23/75		Monsanto	
	094164	12/23/75		Monsanto	
	094165	12/23/75		Monsanto	
Wheat	094181	12/23/75		Monsanto	
	094164	12/23/75		Monsanto	
	094165	12/23/75		Monsanto	
Soybeans	094181	12/23/75		Monsanto	
	094164	12/23/75		Monsanto	
	094165	12/23/75		Monsanto	
Roundup Ready™ Soybeans	43330601	7/22/94	R.D. 1260	Monsanto	
Cotton	094181	12/23/75		Monsanto	
	094164	12/23/75		Monsanto	
	094165	12/23/75		Monsanto	
Grapes	094264	10/4/74		Monsanto	
Citrus	094958	1/19/76		Monsanto	
Coffee	096177	6/1/76		Monsanto	
Sugarcane	095141	3/1/76		Monsanto	
Pome Fruit	095271	9/1/76		Monsanto	

ROUNDUP HERBICIDE / GLYPHOSATE  
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40 CFR 158.240 RESIDUE CHEMISTRY	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>171-4 NATURE OF THE RESIDUE (CONT.)</b>					
Forage Grass and Legumes	097094	4/28/78		Monsanto	
Sugar Beets	096684	12/9/77		Monsanto	
Nut Crops	095663	11/30/76		Monsanto	
Alfalfa	095704	12/31/76		Monsanto	
Vegetables	096398	10/15/77		Monsanto	

APPENDIX B  
MAGNITUDE OF THE RESIDUE: CROPS  
ROUNDUP HERBICIDE / GLYPHOSATE  
EPA Reg. No. 524-445

40 CFR 158.240 RESIDUE CHEMISTRY	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>171-4 MAGNITUDE OF THE RESIDUE</b>					
ROOT AND TUBER VEGETABLES GROUP:					
- Beets, garden	96398	10/14/77	R.D. 141	Monsanto	
- Carrots	96398	10/14/77	R.D. 141	Monsanto	
- Radishes	96684	12/9/77	R.D. 148	Monsanto	
- Potatoes		3/28/79	R.D. 233	Monsanto	
	40785302	7/29/88	R.D. 878	Monsanto	
- Processed Potato Commodities	40785302	7/29/88	R.D. 878	Monsanto	
- Parsnips	96398	10/14/77	R.D. 141	Monsanto	
- Sugar Beets	96684	12/9/77	R.D. 148	Monsanto	
		3/28/79	R.D. 233	Monsanto	
	40785304	7/29/88	R.D. 878	Monsanto	
	43315703	7/19/94	R.D. 1236	Monsanto	
- Sweet Potatoes					
- Turnips					
LEAVES OF ROOT AND TUBER VEGETABLES GROUP:					
- Sugar Beet Tops	96398	10/14/77	R.D. 141	Monsanto	
		3/28/79	R.D. 233	Monsanto	
- Carrot Tops	96398	10/14/77	R.D. 141	Monsanto	
- Turnip Greens					

BULB VEGETABLE GROUP:

- Onions

LEAFY VEGETABLES (EXCEPT BRASSICA  
VEGETABLES) GROUP:

- Lettuce	96398	10/14/77	R.D. 141	Monsanto
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BRASSICA LEAFY VEGETABLES GROUP:

- Cabbage	96398	10/14/77	R.D. 141	Monsanto
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LEGUME VEGETABLES GROUP:

- Dried Beans	96398	10/14/77	R.D. 141	Monsanto
- Lentils				
- Peas	96398	10/14/77	R.D. 141	Monsanto
- Snap Beans	96398	10/14/77	R.D. 141	Monsanto
- Soybeans/Soybean Processing Commodities	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	222753	12/19/75	R.D. 86	Monsanto
	95345	3/1/76	R.D. 92	Monsanto
	96191	6/17/77	R.D. 132	Monsanto
	232680	12/12/77	R.D. 145	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	00084936	10/21/81	R.D. 380	Monsanto
	00156793	2/21/86	R.D. 617	Monsanto
	43260401-3	5/27/94	R.D. 1232	Monsanto

FOLIAGE OF LEGUME VEGETABLES GROUP:

- Bean Vines and Hay				
- Lenti! Forage and Hay				
- Soybean Forage and Hay	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	222753	12/19/75	R.D. 86	Monsanto
	95345	3/1/76	R.D. 92	Monsanto
	96191	6/17/77	R.D. 132	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	00084936	10/21/81	R.D. 380	Monsanto
	00156793	2/21/86	R.D. 617	Monsanto



FRUITING VEGETABLES (EXCEPT  
CURCUBITS) GROUP:

CURCUBITS VEGETABLES GROUP

CITRUS FRUITS GROUP:

- Citrus/Citrus Processed Commodities	94957	11/19/76	R.D. 88	Monsanto
	95065	11/19/76	R.D. 89	Monsanto
	40159401	4/10/87	R.D. 766	Monsanto

POME FRUITS GROUP:	95269	9/1/76	R.D. 108	Monsanto
	95271	9/1/76	R.D. 107	Monsanto

STONE FRUITS GROUP:

- Plums	40785301	7/29/88	R.D. 878	Monsanto
	43315701	7/19/94	R.D. 1236	Monsanto

SMALL FRUITS AND BERRIES GROUP:

- Blackberries				
- Blueberries				
- Cranberries	99624	9/10/80	R.D. 314	IR-4
- Grapes/Raisins	94260	10/4/74	R.D. 54	Monsanto
	94264	10/4/74	R.D. 53	Monsanto
	95703	12/31/76	R.D. 118	Monsanto
	40785303	7/29/88	R.D. 878	Monsanto
	43315702	7/19/94	R.D. 1236	Monsanto
- Raspberries				
- Strawberries				

TREE NUTS:

- Almond, Macadamia, Pecan, Walnut	95630	11/30/76	R.D. 109	Monsanto
	95633	11/30/76	R.D. 110	Monsanto
- Almond Hulls	95630	11/30/76	R.D. 109	Monsanto
	95633	11/30/76	R.D. 110	Monsanto

CEREAL GRAINS GROUP:

- Barley	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
- Corn Grain	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	222755	12/19/75	R.D. 85	Monsanto
	232683	12/12/77	R.D. 144	Monsanto
	232519	12/12/77	R.D. 150	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	238167	3/30/79	R.D. 231	Monsanto
	00130807	10/12/83	R.D. 486	Monsanto
	40502602	1/29/88	R.D. 848	Monsanto
- Corn Oil/Corn Milled Products	43655701	5/19/95	R.D. 1237	Monsanto
	40502604	1/29/88	R.D. 848	Monsanto
	41478101	4/2/90	R.D. 978	Monsanto
	43655702	5/19/95	R.D. 1237	Monsanto
- Oat Grain	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
- Rice Grain	94162 / 95787	7/12/74	R.D. 51	Monsanto
- Sorghum Grain	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	247659	6/4/82	R.D. 423	Monsanto
	00130807	10/12/83	R.D. 486	Monsanto
	00144722	10/10/84	R.D. 555	Monsanto
	40502601	1/29/88	R.D. 849	Monsanto
- Grain Sorghum Processed Products	43342001	8/15/94	R.D. 1192	Monsanto
	40502603	1/29/88	R.D. 849	Monsanto
	41472001	4/2/90	R.D. 977	Monsanto
	43342002	8/15/94	R.D. 1192	Monsanto
- Wheat Grain	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	71296	12/2/82	R.D. 460	Monsanto
	00150835	11/13/84	R.D. 561	Monsanto
- Wheat Milled Products	41484301	4/16/90	R.D. 983	Monsanto
	00150835	11/13/84	R.D. 561	Monsanto

FORAGE, FODDER, AND STRAW  
OF CEREAL GRAINS GROUP:

- Barley Forage, Hay, and Straw	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto

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- Corn Forage, Silage, and Fodder	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	222755	12/19/75	R.D. 85	Monsanto
	232683	12/12/77	R.D. 144	Monsanto
	232519	12/12/77	R.D. 150	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	238167	3/30/79	R.D. 231	Monsanto
	00130807	10/12/83	R.D. 486	Monsanto
	40502602	1/29/88	R.D. 848	Monsanto
- Oat Forage, Hay, and Straw	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
- Rice Straw	94162 / 95787	7/12/74	R.D. 51	Monsanto
- Sorghum Forage, Fodder, Silage, and Hay	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	247659	6/4/82	R.D. 423	Monsanto
	00130807	10/12/83	R.D. 486	Monsanto
	00144722	10/10/84	R.D. 555	Monsanto
	40502601	1/29/88	R.D. 849	Monsanto
- Wheat Forage, Hay, and Straw	93851	11/12/73	R.D. 47	Monsanto
	94162 / 95787	7/12/74	R.D. 51	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	00150835	11/13/84	R.D. 561	Monsanto
	41484301	4/16/90	R.D. 983	Monsanto
GRASS FORAGE, FODDER, AND HAY GROUP:97094	4/28/78	R.D. 175	Monsanto	
	99625	9/12/80	R.D. 313	Monsanto
	070083	5/8/81	R.D. 359	Monsanto
		12/16/93	R.D. 1190	Monsanto
NONGRASS ANIMAL FEEDS GROUP:				
- Alfalfa Seed and Hay	95704	12/31/76	R.D. 117	Monsanto
	97094	4/28/78	R.D. 175	Monsanto
	070083	5/8/81	R.D. 359	Monsanto
	40541304	2/23/88	R.D. 856	Monsanto
	43077001	12/16/93	R.D. 1190	Monsanto
MISCELLANEOUS COMMODITIES				
- Acerola				
- Asparagus	00108144	2/17/78	R.D. 157	Monsanto

- Avocados	96996	3/21/78	R.D. 161	Monsanto
	96631	11/15/77	R.D. 147	Monsanto
	97213	7/7/78	R.D. 189	Monsanto
- Bananas (including Plantains)	00108175	6/14/79	R.D. 244	Monsanto
- Coconut, Coconut Oil	247004	3/9/82	R.D. 411	Monsanto
- Coffee	96177	6/1/76	R.D. 102	Monsanto
- Cottonseed	93851	11/12/73	R.D. 47	Monsanto
	95345	3/1/76	R.D. 92	Monsanto
	97166	5/17/76	R.D. 100	Monsanto
	96191	6/17/77	R.D. 132	Monsanto
	00108203	7/6/78	R.D. 187	Monsanto
	00060103	11/3/80	R.D. 322	Monsanto
- Cotton Forage and Hay	93851	11/12/73	R.D. 47	Monsanto
	95345	3/1/76	R.D. 92	Monsanto
	97166	5/17/76	R.D. 100	Monsanto
	00060103	11/3/80	R.D. 322	Monsanto
- Cotton Processing Fractions	95345	3/1/76	R.D. 92	Monsanto
- Roundup Ready™ Cotton	43571801	3/6/95	R.D. 1297	Monsanto
- Figs				
- Guava				
- Kiwi Fruit				
- Mangos				
- Oil Seeds (Flax, Mustard, Rape, Sunflower)		11/26/79	R.D. 278	Monsanto
- Olives, Processed	00108175	6/14/79	R.D. 244	Monsanto
	42398401	7/8/92	R.D. 1115	Monsanto
- Olive Oil	00108175	6/14/79	R.D. 244	Monsanto
	42398401	7/8/92	R.D. 1115	Monsanto
- Palm Oils	224884	8/2/76	R.D. 106	Monsanto
- Papayas				
- Peanuts/Peanut Forage and Hay	99306	2/18/80	R.D. 289	Monsanto
	00144341	9/12/84	R.D. 552	Monsanto
	40750702	6/20/88	R.D. 875	Monsanto
- Peanut Processed Commodities	00144341	9/12/84	R.D. 552	Monsanto
	40750702	6/20/88	R.D. 875	Monsanto
- Pineapple				
- Pineapple Forage				
- Pistachio Nuts				
- Sugarcane	95141	3/1/76	R.D. 93	Monsanto
	95972	6/21/76	R.D. 104	Monsanto
			R.D. 163	Monsanto
			R.D. 197	Monsanto

Contains Trade Secret or Otherwise Confidential Information of Monsanto Company

- Sugarcane Processed Commodities  
- Tea, Instant Tea

95972  
245567

6/21/76  
6/30/81

R.D. 104  
R.D. 369

Monsanto  
Monsanto

# APPENDIX C

## MAGNITUDE OF THE RESIDUE: POTABLE WATER

### ROUNDUP HERBICIDE / GLYPHOSATE

EPA Reg. No. 524-445

40 CFR 158.240 RESIDUE CHEMISTRY	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
<b>171-4 MAGNITUDE OF THE RESIDUE</b>					
Canals	094684	9/25/75		Public Document <sup>1</sup> Monsanto	
	095356	9/25/75			
Flooded Levees	094684	9/25/75		Monsanto Monsanto	
	095356	9/25/75			
Ponds	094684	9/25/75		Public Document <sup>2</sup> Monsanto	
	095356	9/25/75			
Potable Water Treatment	095356	9/25/75		Monsanto	
Ditchbank / Flowing Water	097660-1	12/22/78		Monsanto	
Shoreline / Impounded Water	097660-1	12/22/78		Monsanto	
Total Area / Impounded Water	097660-1	12/22/78		Monsanto	
Whole Cross-Section / Flowing Water	070170	6/29/81		Monsanto	

<sup>1</sup> R.D. Comes. USDA/ARS. Prosser, Washington.

<sup>2</sup> R.D. Blackburn. WSDA/ARS. Fort Lauderdale, Florida.

# APPENDIX D

## MAGNITUDE OF THE RESIDUE: FISH

### ROUNDUP HERBICIDE / GLYPHOSATE

EPA Reg. No. 524-445

40 CFR 158.240  
RESIDUE CHEMISTRY

EPA  
REFERENCE  
NUMBER

SUBMISSION  
DATE

DOCUMENT  
NUMBER

OWNER

AUTHORIZATION

#### 171-4 MAGNITUDE OF THE RESIDUE

##### ACCUMULATION STUDIES

Rainbow Trout	097762	12/22/78	Monsanto
Largemouth Bass	097762	12/22/78	Monsanto
Channel Catfish	097762	12/22/78	Monsanto
	246876	2/26/82	Monsanto
Bluegill Sunfish	094171	12/23/75	Monsanto
Crayfish	097762	12/22/78	Monsanto
	071696	6/15/83	Monsanto
Mollusks	097762	12/22/87	Monsanto
	071695	6/15/83	Monsanto

**SECTION D**

**REGISTRATION REQUEST**

Residue Data



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 28 1997

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite 1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra RT Herbicide (Add Preharvest Corn)  
EPA Registration No. 524-475  
Your Application Dated June 25, 1996

The amendment referred to above, submitted in connection with registration under section 3 (c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Will submit, upon EPA's request and according to a schedule determined by the Agency, such information as the Agency directs to be submitted in order to evaluate issues related to whether glyphosate shares a common mechanism of toxicity with any other substance and, if so, whether any tolerances for glyphosate need to be modified or revoked.
2. You will submit the residue data listed below within three years of the date of this letter.
  - a. Eight additional residues field trials, six in Region VI (midwest), one in Region I (northeast), and one in Region II (southeast).
  - b. Two additional processing studies on aspirated grain fractions that more closely simulate common commercial practice.
3. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on preharvest grain sorghum is conditionally registered, in accordance with FIFRA Section 29. The fiscal year begins October 1 and ends September 30. Production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

CONCURRENCES							
SYMBOL	75052						
SURNAME	V. K. Walker						
DATE							

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

EPA-C-1004-150-11A

This information should be submitted to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Document Processing Desk (PSB)  
401 M Street SW., CM#2  
Washington, DC 20460

Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labels are enclosed for your records.

This registration expires four (4) years from the date of this letter.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

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'96 JUN 26 P12.22 **SUPPLEMENTAL LABELING**

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT and this supplement.

**ROUNDUP ® ULTRA RT**  
Herbicide by Monsanto

EPA Reg. No. 524-475

**ACCEPTED**  
MAR 28 1997

PREHARVEST APPLICATIONS IN CORN

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

Keep out of reach of children.

**CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra RT herbicide for essential product performance information.

**RECOMMENDATIONS**

This product may be used prior to harvest of corn to control annual and perennial weeds listed on the label booklet for Roundup Ultra RT herbicide.

For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 1 quart of this product per acre.

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Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). Allow a minimum of 7 days between application and harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

Note: It is not recommended that corn grown for seed be treated because a reduction in germination or vigor may occur.

---

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

---

© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

63

A

# Monsanto

RECD EPA/OPP/DP02

96 JUN 26 10 08

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

June 25, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Label for Preharvest Applications**  
**in Corn**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra RT herbicide (EPA Reg. No. 524-475) for preharvest applications in corn. A conditional registration for this use is pending. This label is identical to the label that was previously submitted for Roundup herbicide (EPA Reg. No. 524-445).

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243141

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental label for preharvest applications in corn

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____					

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2450	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received JUN 26 P12:22 RECEIVED EPA/OPP/DPD2 65
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date June 25, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## Certification with Respect to Citation of Data

## Applicants Name and Address

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

96 JUN 26 P12:22

## EPA File Symbol/Registration Number

524-475

## Product Name

Roundup® Ultra RT Herbicide

## Date of Application

June 25, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
    - ☒ I am the original submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study,
    - a. ☒ I am the original data submitter\*; or
      - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to:
      - (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and
      - (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
        - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
        - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

Name and Title

Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs

Date

June 25, 1996

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 28 1987

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite 1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Add Preharvest Corn)  
EPA Registration No. 524-475  
Your Application Dated June 25, 1996

The amendment referred to above, submitted in connection with registration under section 3 (c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Will submit, upon EPA's request and according to a schedule determined by the Agency, such information as the Agency directs to be submitted in order to evaluate issues related to whether glyphosate shares a common mechanism of toxicity with any other substance and, if so, whether any tolerances for glyphosate need to be modified or revoked.
2. You will submit the residue data listed below within three years of the date of this letter.
  - a. Eight additional residues field trials, six in Region VI (midwest), one in Region I (northeast), and one in Region II (southeast).
  - b. Two additional processing studies on aspirated grain fractions that more closely simulate common commercial practice.
3. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on preharvest grain sorghum is conditionally registered, in accordance with FIFRA Section 29. The fiscal year begins October 1 and ends September 30. Production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

CONCURRENCES							
SYMBOL	25052						
SURNAME	V. K. Williams						
DATE	3/18/97						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

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This information should be submitted to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Document Processing Desk (RSE)  
401 M Street SW., CM#2  
Washington, DC 20460

Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labels are enclosed for your records.

This registration expires four (4) years from the date of this letter.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

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'96 JUN 26 P12:14 **SUPPLEMENTAL LABELING**

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

**ROUNDUP ® ULTRA**  
Herbicide by Monsanto

EPA Reg. No. 524-475

PREHARVEST APPLICATIONS IN CORN

**ACCEPTED**

MAR 28 1997

Keep out of reach of children.

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

**CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

**RECOMMENDATIONS**

This product may be used prior to harvest of corn to control annual and perennial weeds listed on the label booklet for Roundup Ultra herbicide.

For ground applications, apply up to 3 quarts of this product per acre. For aerial applications, apply up to 1 quarts of this product per acre.

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Make applications at 35 percent grain moisture or less. Ensure that maximum kernel fill is complete and the corn is physiologically mature (black layer formed). Allow a minimum of 7 days between application and harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

Note: It is not recommended that corn grown for seed be treated because a reduction in germination or vigor may occur.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

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© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243137

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental label for preharvest applications in corn

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		Date Application Received JUN 26 PM 2:13 (Stamped) RECEIVED EPA/OPP/DP02 72
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date <i>June 25, 1996</i>	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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United States Environmental Protection Agency  
Washington, DC 20460

**Certification with Respect to Citation of Data**

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

Applicant's Name and Address Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005	EPA File Symbol/Registration Number 524-475
	Product Name Roundup® Ultra Herbicide
	Date of Application June 25, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,  
☒ I am the original submitter\*; or  
☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
    - a. ☒ I am the original data submitter\*; or  
☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)  
☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)  
☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature <i>Sheila A. Schuette</i>	Name and Title Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	Date June 25, 1996
General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.		
Signature	Name and Title	Date 74

# Monsanto

RECD EPA/OPP/DPD2

~~'96 JUN 26 10 18~~

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

June 25, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Label for Preharvest Applications**  
**in Corn**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra herbicide (EPA Reg. No. 524-475) for preharvest applications in corn. A conditional registration for this use is pending. This label is identical to the label that was previously submitted for Roundup herbicide (EPA Reg. No. 524-445).

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

October 10, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: Pending Tolerances for Glyphosate on Corn, Grain Sorghum and  
Oat Commodities  
Pesticide Petitions 8F3672, 8F3673, 6E4645 and 5F4555

Dear Sir:

In response to passage of the Food Quality Protection Act, Monsanto is submitting additional information to support the pending tolerance petitions on glyphosate. A summary of the safety data that has been conducted on glyphosate is enclosed; particular attention has been given to those issues dealing with the safety of infants and children. The enclosed information also contains dietary exposure estimates that are based on calculations performed by the Agency's Dietary Risk Evaluation Section (DRES).

Monsanto also requests that the Agency combine the tolerance petitions that have been submitted for glyphosate on field corn grain, fodder and aspirated grain fractions (PP 8F3673); grain sorghum and grain sorghum fodder (PP 8F3672); oats (PP 6E4645) and corn forage (PP 5F4555) into one petition. We are submitting a revised Section F Tolerance Request that has combined all of these tolerances.

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October 10, 1996  
Page 2

Monsanto requests that the Agency grant these time-limited tolerances. Monsanto understands that full registrations will not be granted until additional residue and/or processing data is submitted.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
D.R. Farmer  
M.S. Bleeke

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

13333

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Pending Tolerances for Glyphosate on Corn, Grain Sorghum and Oat Commodities  
Pesticide Petitions 8F3672, 8F3673, 6E4645 and 5F4555

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Oct 10, 1996	



## Certification with Respect to Citation of Data

United States Environmental Protection Agency  
Washington, DC 20460Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

## Applicant's Name and Address

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

## EPA File Symbol/Registration Number

524-475

## Product Name

Roundup® Ultra Herbicide

## Date of Application

October 10, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,

☒ I am the original submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

a. ☒ I am the original data submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*; or

b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)

☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)

☐ Those companies that have submitted the studies which I have cited (Selective method\*).

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

Name and Title

Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs

Date

Oct. 10, 1996

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

RECEIVED  
EPA/DPD1  
OCT 16 1996

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**SECTION F  
(REVISED)**

**PROPOSED TOLERANCES**

Monsanto requests that the following tolerances be established for residues of glyphosate [N-(phosphonomethyl) glycine] resulting from the application of the isopropylamine salt of glyphosate and/or the monoammonium salt of glyphosate in or on the following raw agricultural commodities:

**Glyphosate  
40 CFR §185.364**

Corn grain, field.....	1.0 ppm
Corn forage, field.....	1.0 ppm
Corn fodder, field.....	100 ppm
Aspirated grain fractions.....	200 ppm
Grain Sorghum.....	15 ppm
Grain Sorghum, fodder.....	40 ppm
Oat.....	20 ppm

96 OCT 16 P2:16

RECD LPA/CTP/DPD1

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# **Information to Support the Proposed Tolerances for Glyphosate**

**Submitted by Monsanto Company**

**October 10, 1996**

## **1. Chemical Uses:**

Glyphosate is a postemergent, systemic herbicide with no residual soil activity. It is generally non-selective and provides broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. Glyphosate is registered for a variety of agricultural uses, including preplant, preharvest, in-crop, fallow, reduced tillage, forestry and aquatic applications, as well as non-crop applications. When applied at lower rates, glyphosate also acts as a plant growth regulator. Glyphosate's primary mode of action is inhibition of the biosynthesis of aromatic amino acids in plants.

## **2. Safety:**

Monsanto Company has submitted numerous toxicology studies in support of glyphosate. According to Monsanto Company, the acute toxicity and irritation potential of glyphosate is low. There are large margins of safety for subchronic and chronic effects. Glyphosate does not produce reproductive effects and is not a teratogen, mutagen, carcinogen or a neurotoxin. Risk assessment calculations indicate the margin of safety for agricultural workers and the population in general far exceed the EPA required level of 100.

The following mammalian toxicity studies have been conducted to support glyphosate:

A rat acute oral study with a combined LD<sub>50</sub> of > 5000 mg/kg.

A rabbit acute dermal LD<sub>50</sub> of > 5000 mg/kg.

A primary eye irritation study in the rabbit which showed severe irritation for glyphosate acid. However, glyphosate is normally formulated as one of several salts and eye irritation studies on the salts showed essentially no irritation.

A primary dermal irritation study which showed essentially no irritation.

A primary dermal sensitization study which showed no sensitization.

A 90-day feeding study in rats fed dosage levels of 0, 1000, 5000 and 20,000 ppm with a no-observable-effect level (NOEL) of 20,000 ppm based on no effects even at the highest dose tested.

A 90-day feeding study in mice fed dosage levels of 0, 5000, 10,000 and 50,000 with a NOEL of 10,000 ppm based on body weight effects at the high dose.

A 90-day feeding study in dogs given glyphosate, via capsule, at doses of 0, 200, 600 and 2000 mg/kg/day with a NOEL of 2000 mg/kg/day based on no effects even at the highest dose tested.

A 12-month oral study in dogs given glyphosate, via capsule, at doses of 0, 20, 100 and 500 mg/kg/day with a NOEL of 500 mg/kg/day based on no adverse effects at any dose level.

A 26-month chronic/feeding oncogenicity study with rats fed dosage levels of 0, 3, 10 and 31 mg/kg/day (males) and 0, 3, 11 and 34 mg/kg/day (females) with a systemic NOEL of 31 mg/kg/day (males) and 34 mg/kg/day (females) based on no carcinogenic or other adverse effects at any dose level.

A 24-month chronic/feeding oncogenicity study with rats fed dosage levels of 0, 89, 362 and 940 mg/kg/day (males) and 0, 113, 457 and 1183 mg/kg/day (females) with a systemic NOEL of 362 mg/kg/day based on body weight effects in the female and eye effects in males. There was no carcinogenic response at any dose level.

A mouse oncogenicity study with mice fed dosage levels of 0, 150, 750 and 4500 mg/kg/day with a NOEL of 750 mg/kg/day based on body weight effects and microscopic liver changes at the high dose. There was no carcinogenic effect at the highest dose tested of 4500 mg/kg/day.

An oral developmental toxicity study with rats given doses of 0, 300, 1000 and 3500 mg/kg/day with a maternal NOEL of 1000 mg/kg/day based on clinical signs of toxicity, body weight effects and mortality, and a fetal NOEL of 1000 mg/kg/day based on reduced body weights and delayed sternebrae maturation at the highest dose tested of 3500 mg/kg/day.

An oral developmental toxicity study with rabbits given doses of 0, 75, 175 and 350 mg/kg/day with a maternal NOEL of 175 mg/kg/day based on clinical signs of toxicity and mortality, and a fetal NOEL of 350 mg/kg/day based on no developmental toxicity at any dose tested.

A three-generation reproduction study with rats fed dosage levels of 0, 3, 10 and 30 mg/kg/day with a NOEL for systemic and reproductive/developmental parameters of 30 mg/kg/day based on no adverse effects noted at any dose level.

A two-generation reproduction study with rats fed dosage levels of 0, 100, 500 and 1500 mg/kg/day with a NOEL for systemic and developmental parameters of 500 mg/kg/day based on body weight effects, clinical signs of toxicity in adult animals and decreased pup bodyweights, and a reproductive NOEL of 1500 mg/kg/day.

A number of mutagenicity studies were conducted and were all negative. These studies included: chromosomal aberration in vitro (no aberrations in Chinese hamster ovary cells were caused with or without S9 activation); DNA repair in rat hepatocyte;

in vivo bone marrow cytogenic test in rats; rec-assay with *B. subtilis*; reverse mutation test with *S. typhimurium*; Ames test with *S. typhimurium*; and dominant-lethal mutagenicity test in mice.

### 3. Threshold effects

**Chronic Effects:** The reference dose (RfD) for glyphosate based on maternal effects in a developmental study with rabbits (NOEL of 175 mg/kg bwt/day) and using a hundred-fold safety factor is calculated to be 2.0 mg/kg body weight/day.

**Acute Toxicity:** Based on the available acute toxicity data, glyphosate does not pose any acute dietary risks.

### 4. Non-Threshold Effects

**Carcinogenicity:** The Health Effects Division Carcinogenicity Peer Review Committee has classified glyphosate in Group E (evidence of noncarcinogenicity for humans), based upon lack of convincing carcinogenicity evidence in adequate studies in two animal species. There was no evidence of carcinogenicity in an 18-month feeding study in mice and a 2-year feeding study in rats at the dosage levels tested. The doses tested are adequate for identifying a cancer risk. Thus, a cancer risk assessment is not appropriate.

### 5. Aggregate Exposure

For purposes of assessing the potential dietary exposure under these tolerances, Monsanto has estimated aggregate exposure based on the TMRC from the tolerances for glyphosate on field corn grain at 1.0 ppm, field corn forage at 1.0 ppm, field corn fodder at 100 ppm, aspirated grain fractions at 200 ppm, grain sorghum at 15 ppm, grain sorghum fodder at 40 ppm and oats at 20 ppm. The TMRC is obtained by multiplying the tolerance level residue for each food commodity by the consumption data which estimates the amount of those products eaten by various population subgroups. Corn forage and fodder, sorghum fodder and aspirated grain fractions are fed to animals; thus exposure of humans to residues in these commodities might result if such residues are transferred to meat, milk, poultry, or eggs. However, based on the results of animal metabolism studies and the amount of glyphosate residues expected in animal feeds, Monsanto has concluded that there is no reasonable expectation that residues of glyphosate will exceed existing tolerances in meat, milk, poultry or eggs. In conducting this exposure assessment, Monsanto has made very conservative assumptions -- 100% of these crops will contain glyphosate residues and those residues would be at the level of the tolerance -- which result in an overestimate of human exposure. Thus, in making a safety determination for these tolerances, Monsanto is taking into account this conservative exposure assessment.

Other potential sources of exposure of the general population to residues of pesticides are residues in drinking water and exposure from non-occupational sources. A Maximum Concentration Level (MCL) has been established for residues of



glyphosate in drinking water at 0.7 mg/l since glyphosate is approved for direct application to water. The MCL represents the level at which no known or anticipated adverse health effects occur, allowing for an adequate margin of safety, and is based on the reference dose (RfD). Non-occupational exposure to glyphosate is expected based on the currently-registered uses; however, due to the low acute toxicity and lack of other toxicological concerns, the risk posed by non-occupational exposure to glyphosate is minimal.

EPA consideration of a common mechanism of toxicity is not appropriate at this time since EPA does not have information to indicate that toxic effects produced by glyphosate would be cumulative with those of any other chemical compound.

## **6. Determination of Safety for U.S. Population**

**Reference Dose (RfD):** The theoretical maximum residue contribution (TMRC) for existing, published tolerances for glyphosate is 0.021460 mg/kg bwt/day or 1.0% of the RfD for the overall U.S. population. Using the conservative exposure assumptions described above, the proposed new tolerances on corn, sorghum and oat commodities will contribute 0.0023 mg/kg/day to the TMRC. This aggregate exposure will utilize an additional 0.12% of the RfD for the overall U.S. population. EPA generally has no concern for exposures below 100 percent of the RfD. Therefore, based on the completeness and reliability of the toxicity data and the conservative exposure assessment, it can be concluded that there is a reasonable certainty that no harm will result from aggregate exposure to residues of glyphosate, including all anticipated dietary exposure and all other non-occupational exposures.

## **7. Determination of Safety for Infants and Children**

In assessing the potential for additional sensitivity of infants and children to residues of glyphosate, Monsanto considered data from developmental toxicity studies in the rat and rabbit and multi-generation reproduction studies in rats.

No birth defects were observed in the offspring of rats given glyphosate by gavage at dose levels of 0, 300, 1000, and 3500 mg/kg/day on days 6 through 19 of gestation. The NOEL for this study was 1000 mg/kg/day based on maternal and developmental toxicity observed at the highest dose tested, 3500 mg/kg/day. The high-dose in this study was 3.5 times higher than the limit dose that is currently required by the guidelines.

No birth defects were observed in the offspring of rabbits given glyphosate by gavage at dose levels of 0, 75, 175, and 350 mg/kg/day on days 6 through 27 of gestation. The NOEL for this study is considered to be 175 mg/kg/day based on maternal toxicity at the high-dose of 350 mg/kg/day. Because no developmental toxicity was observed at any dose level, the developmental NOEL is considered to be 350 mg/kg/day.

Male and female rats were fed glyphosate at dose levels of 0, 3, 10, and 30 mg/kg/day every day throughout the production of three successive generations. No adverse

treatment-related effects on reproduction were observed. Because no toxicity was noted even at the highest dose tested, a second reproduction study at higher dose levels was performed and is described below.

Male and female rats were fed glyphosate at dose levels of 0, 100, 500, and 1500 mg/kg/day every day throughout the production of two successive generations. Reduced body weights and soft stools occurred at 1500 mg/kg/day (3% of the diet); therefore, the systemic NOEL is considered to be 500 mg/kg/day. Glyphosate did not affect the ability of rats to mate, conceive, carry or deliver normal offspring at any dose level.

The results of these studies indicate that glyphosate does not produce birth defects and is not a reproductive toxin.

Reference Dose (RfD): The theoretical maximum residue contribution (TMRC) for existing, published tolerances for glyphosate ranges from 0.015561 for nursing infants to 0.049134 for non-nursing infants (0.8 to 2.5% of the RfD). Using the conservative exposure assumptions described above, the proposed new tolerances on corn, sorghum and oat commodities will contribute 0.0158 mg/kg/day to the TMRC for non-nursing infants. For non-nursing infants, the proposed new tolerances and previously established tolerances will utilize a total of 3.2% of the RfD. EPA generally has no concern for exposures below 100 percent of the RfD. Therefore, based on the completeness and reliability of the toxicity data and the conservative exposure assessment, it can be concluded that there is a reasonable certainty that no harm will result from aggregate exposure to residues of glyphosate, including all anticipated dietary exposure and all other non-occupational exposures.

## 8. Estrogenic Effects

The toxicity studies required by EPA for the registration of pesticides measure numerous endpoints with sufficient sensitivity to detect potential endocrine-modulating activity. No effects have been identified in subchronic, chronic or developmental toxicity studies to indicate any endocrine-modulating activity by glyphosate. In addition, negative results were obtained when glyphosate was tested in a dominant-lethal mutation assay. While this assay was designed as a genetic toxicity test, agents that can affect male reproduction function will also cause effects in this assay. More importantly, the multi-generation reproduction study in rodents is a complex study design which measures a broad range of endpoints in the reproductive system and in developing offspring that are sensitive to alterations by chemical agents. Glyphosate has been tested in two separate multi-generation studies and each time the results demonstrated that glyphosate is not a reproductive toxin.

## 9. Chemical Residue

The nature of the residue in plants is adequately understood. The residue to be regulated is the parent glyphosate. The submitted residue data adequately support

the proposed tolerances on field corn grain (1.0 ppm), field corn forage (1.0 ppm), field corn fodder (100 ppm), corn aspirated grain fractions (200 ppm), grain sorghum (15 ppm), grain sorghum fodder (40 ppm) and oats (20 ppm). Codex maximum residue levels have been established for residues of glyphosate on oats at 20 ppm and on corn and sorghum at 0.1 ppm. Any secondary residues occurring in milk, eggs, meat, fat, liver and kidney of cattle, goats, horses, hogs, poultry and sheep are covered by existing tolerances. There is a practical analytical method for detecting and measuring levels of glyphosate in or on food with a limits of detection (0.05 ppm) that allows monitoring of food with residues at or above the levels set in these tolerances. EPA has provided information on this method to FDA. This method is available to anyone who is interested in pesticide residue enforcement from the Field Operations Division, Office of Pesticide Programs.

#### **10. Environmental Fate**

Glyphosate adsorbs strongly to soil and is not expected to move vertically below the six-inch soil layer; residues are expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA, which is degraded to carbon dioxide. Glyphosate and AMPA are not likely to move to ground water due to their strong adsorptive characteristics. However, due to its aquatic use patterns and through erosion, glyphosate does have the potential to enter surface waters, where it will adsorb to sediment and undergo microbial degradation.

Glyphosate is no more than slightly toxic to birds and is practically non-toxic to fish, aquatic invertebrates and honeybees.

my copy

MEMORANDUM

SUBJECT: PP#8F03673, Amendment Dated 6/20/96. Response to Review, Revised Section F. Glyphosate on Corn. Chemical# 417300, DP Barcodes: D228424, Case: 280709, CBTS#: 17442, MRID#: None.

FROM: William D. Cutchin, Chemist  
Tolerance Petition Team I  
Chemistry Branch I: Tolerance Support  
Health Effects Division (7509C)

8/20/96

THROUGH: Elizabeth Haeberer, Acting Chief  
Chemistry Branch I: Tolerance Support  
Health Effects Division (7509C)

TO: Debbie McCall, Acting Section Head  
Risk Assessment and Analysis Branch  
Health Effects Division (7509C)

Executive Summary of Residue Chemistry Deficiencies

Additional Corn Residue Trials.  
Additional Aspirated Grain Fractions Studies.

CBTS is recommending for a time limited tolerances while additional residue data are generated.

Background

Monsanto Agricultural Co. requests increases in the tolerances of the herbicide glyphosate (N-phosphonomethyl glycine) on corn grain to 1 ppm, corn fodder (stover) to 100 ppm, and aspirated grain fractions at 200 ppm. The registrant also requests the amendment of the Roundup Herbicide (EPA Reg. No. 524-445) label for a new preharvest use (i.e., prior to the harvest of the mature corn grain). An increase in the corn forage tolerance is not requested since corn forage would be harvested before the preharvest application takes place.

Tolerances for the combined residues of glyphosate and its metabolite aminomethylphosphonic acid (AMPA) exist on corn grain and fodder as part of the dated grain and forage grasses crop groups at 0.1 ppm and 0.2 ppm respectively (40 CFR  $\leq$  180.364). These dated crop group tolerances should eventually be eliminated by tolerances reassessment in conjunction with reregistration. Food

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additive and feed additive tolerances are established under 40 CFR <185.3500 and <186.3500, respectively, for the combined residues of glyphosate and AMPA.

The Product and Residue Chemistry Chapters for the Glyphosate Reregistration Eligibility Decision Document (DP Barcode: D183202, CBRS#: 10665) were completed, 10/27/92. The HED Metabolism Committee has determined that AMPA does not need to be regulated and should be dropped from the tolerance expression in the future (Memo, R. Perfetti, 8/19/92).

### Conclusions

1a. Residue data submitted in support of PP#8F3673 are inadequate. Considering the variability observed in residues in the submitted field trials, these studies reflect an insufficient number of geographically represented sites.

1b. The previous Section F indicated the tolerances are to be established on corn. The correct terminology is corn, field, grain and corn, field, fodder. The registrant has submitted a revised Section F satisfying this deficiency.

2. Data on aspirated grain fractions submitted in support of PP#8F3673 are inadequate. While glyphosate residues appear to concentrate on corn aspirated grain fractions (AGF), the rate varies considerably within the processing studies. The registrant has provided a rationalization for the disparity between the two concentration factors. The explanation indicates that the studies were not conducted in a manner to simulate common practice. Portions of cob, leaf, and stalk would not be present in commercial aspirated grain fractions. Two additional processing studies will be necessary to provide a more accurate concentration factor. CBTS will continue to use the higher concentration factor to calculate the tolerance on aspirated grain fractions and from that the dietary burden. With the HAFT of 0.54 ppm and 395x concentration, the 200 ppm tolerance is appropriate. The tolerance level may change depending on the results of the requested residue trials and additional AGF studies.

3. Corn grain, forage, fodder, aspirated grain fractions, and milled byproducts are animal feed items. The dietary burden to livestock from this proposed use, and the transfer of glyphosate residues from livestock feed items to meat, milk, poultry, and eggs are covered by established tolerances with the exception of kidney. The transfer of glyphosate residues from this proposed use is covered by the 4 ppm tolerance on kidney recommended by CBTS in PP#4F4312 and established on April 5, 1996 (61 FR 15192).

### Recommendations

For the reasons cited in conclusion 1a and 2, CBTS recommends against the permanent increase of glyphosate tolerances in or on field corn grain to 1 ppm, field corn fodder to 100 ppm, and aspirated grain fractions at 200 ppm. However, based on the submitted field trials, CBTS can recommend for time limited tolerances at these levels while additional residue data are generated. Based on the latest Table 1 (7/31/96) listing RACs and processed commodities, the "field corn fodder" tolerances should be expressed as "field corn stover."

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A DRES run using the above tolerances was initiated with our previous review. Another run is not indicated at this time.

### Detailed Considerations

#### Magnitude of Residue

Considering the variability observed in residues in the field trials (see Table I in our 3/21/96 review), the residue data submitted with this petition are insufficient to establish the requested tolerances. The results of twelve corn residue studies were submitted. Eleven studies were conducted in Region V and one study in Region VI. As specified in the Agency's June 1994 guidance on number and location of field trials, a total of twenty successful residue studies with the correct geographic diversity are necessary to establish tolerances in/on field corn. CBTS reiterates that eight more studies with the correct geographic diversity are necessary to establish the requested tolerances. CBTS has no objection to these additional trials being conducted in conjunction with a conditional registration and time limited tolerance.

The registrant has submitted a revised Section F. The terminology of the RAC and processed commodities for which increases in tolerances are requested are now correct.

Commodity	ppm
corn grain, field	1
corn fodder, field	100
aspirated grain fractions	200

We note, however, that "fodder" should be changed to "stover" when tolerances are published (see Table 1 for RAC terminology).

#### Processing Studies

Glyphosate residues appear to concentrate on some corn processed commodities. Samples of field corn from two field trials were milled to produce corn processed commodities. The corn grain was milled in a manner to simulate common practice. A batch process was used instead of a continuous mode due to the small sample size.

The results of the analysis of the individual processed commodities are listed in Table II in our 3/21/96 review. The concentration factors are calculated by dividing the glyphosate level found in the processed commodity by the glyphosate level found on the corresponding RAC. The highest concentration factor was 672 on grain screenings from Illinois.

The requested tolerance for aspirated grain fractions is based on the highest average field trial (HAFT) grain residue found, 0.54 ppm, multiplied by the highest concentration factor found on grain dust, 395. A tolerance on milled byproducts would be calculated from the highest average grain residue, 0.54 ppm, multiplied by the average concentration factor found on dry milled commodities,

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1.12  $((1.71 + 0.52)/2)$ , found on flour. The result of this calculation, 0.6 ppm  $(0.54 \text{ ppm} * 1.12)$ , is lower than the requested tolerance on the corn grain, therefore no feed additive tolerance is required for milled byproducts.

Current CBTS policy indicates that the average concentration factors found in processing studies are to be used to calculate tolerances on processed commodities. While the difference in the concentration factors used to calculate the tolerance for dry milled commodities is not significant, 1.71 vs 0.52, the difference between the concentration factors for AGF is significant, 395 vs 14.4 (27x). Using the average AGF concentration factor from two studies would cut the tolerance on aspirated grain fractions in half.

The registrant has provided a rationalization for the disparity between the two concentration factors.

"The processed grain dust and screening samples contain not only grain dust, but also portions of cob, leaf and stalk. The leaf and stalk particles would be expected to have high residues, as indicated by the fodder residue levels and the method of application. A variation in the ratio of actual grain particles to leaf and stalk particles in the grain fractions would therefore be expected to cause the variability in residue levels in these fractions, rather than variability in how the residues are actually concentrating in the grain."

The registrant's explanation indicates that the variability in concentration factors is a result of processing which does not simulate common practice. Portions of cob, leaf, and stalk would not be present in commercial aspirated grain fractions. The registrant should conduct two more studies that more closely simulate common commercial practice. In the interim, CBTS will use the higher concentration factor from the previously submitted studies to calculate the tolerance on aspirated grain fractions and from that the dietary burden. With the HAFT of 0.54 ppm and 395x concentration, the 200 ppm tolerance is appropriate. When the requested additional residue trials and processing are received, the HAFT and concentration factors will be recalculated, and an adjustment to the tolerance on aspirated grain fractions may be necessary.

#### Geographic Representation

CBTS reiterates that the geographic diversity of the studies are inadequate to represent the U.S. field corn growing regions. Twenty successful field corn studies with the correct geographic diversity are required to support a permanent tolerance. The twelve residue studies submitted here were located in Region 5 (11) and in Region 6 (1). This represents 86% of the domestic field corn growing regions. However due to the large acreage of domestic field corn production and the variability observed in the residues, eight more successful studies are necessary to establish a permanent tolerance: six more in Region 5 (midwest), one in Region 1 (northeast), and one in Region 2 (southeast).

#### Meat, Milk, Poultry, and Eggs

Glyphosate tolerances for the kidney of cattle, goats, hogs, horses, poultry, and sheep have been raised to 4 ppm on April 5, 1996 (61 FR 15192). The tolerances are for a preharvest use of glyphosate on alfalfa. Based on the available

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feeding study the addition of the dietary burden of at most 78 ppm glyphosate residues on corn commodities (Table III in our 3/21/96 review, beef cattle, if an all corn commodities diet were fed) will be covered by the new tolerances. The secondary residues on cattle meat and milk are not expected to be a problem even if alfalfa hay is added to the diet (see Table V in our 3/21/96 review) with the establishment of the 4 ppm kidney tolerance.

cc: RF, PP#8F03673, circ., Cutchin, R. Taylor - PM Team 25 (7505W)

7509C: CBTS, Reviewer (WDC), CM#2, Rm 804P, 305-7990, WDC: 8/19/96

R/I: Br. Sr. Sci.: R. Loranger, 8/9/96;

Act. Br. Chief: E. Haeberer, 8/13/96



# Monsanto

RECD EPA/OPP/DP02

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

'96 JUN 21 A11:30

June 20, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Preharvest Use of Glyphosate on Corn  
Pesticide Petition 8F3673  
Request for a Time Limited / Conditional Registration  
Submission of a Revised Section F  
Response to Agency Letter Dated March 21, 1996**

Dear Sir:

In response to the Agency's letter of March 21, Monsanto is requesting that the Agency grant a time limited / conditional registration for the use of glyphosate preharvest to corn. In support of this request, we are addressing the following issues that were raised by the Agency:

*Explanation for Disparity in Concentration Factors in Processing Study*

The processing study was done at two locations, Illinois and Iowa. The residues in the clean grain prior to processing were similar, 0.02 and 0.05 ppm, respectively. The residues and concentration factors for all the processed fractions except the grain dust and screenings were also comparable at the two locations. The variability in the grain dust and screenings was most likely caused by the nature of these fractions, and the high residues in the fodder that were a result of the preharvest application. The residues in the Illinois and Iowa fodder samples were 22.8 and 27.6 ppm,

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respectively, or up to a thousand times higher than the residues in the grain. The processed grain dust and screening samples contain not only grain dust, but also portions of cob, leaf and stalk. The leaf and stalk particles would be expected to have high residues, as indicated by the fodder residue levels and the method of application. A variation in the ratio of actual grain particles to leaf and stalk particles in the grain fractions would therefore be expected to cause the variability in residue levels in these fractions, rather than variability in how the residues are actually concentrating in the grain.

Revised Section F

A revised Section F Tolerance Request is attached. The terminology has been corrected so that the raw agricultural commodities now read "corn grain, field", "corn fodder, field" and "aspirated grain fractions", as requested on page 6 of the Agency's March 21 memorandum.

Liver / Kidney Tolerances

The reviewer states that time limited tolerances can be established if the liver/kidney tolerances of 4 ppm in PP#4F4312 are established. In that petition, Monsanto had originally requested tolerances on animal liver and kidney at 1.0 ppm based on the fact that we were requesting a 400 ppm tolerance on alfalfa meal. Subsequently, the Agency concluded that a tolerance on alfalfa meal was not required and that the existing tolerances for the liver of cattle, goats, hogs, sheep and horses and the existing tolerances on poultry liver and kidney were adequate. The Agency recommended increasing the tolerance on kidney of cattle, goats, hogs, sheep and horses to 4.0 ppm; these tolerances were established on April 5, 1996 (61 FR 15192).

Monsanto believes that we have satisfied the issues raised in the Agency's letter of March 21, 1996 and therefore we request that the Agency grant a time limited / conditional registration for use of glyphosate preharvest to corn. We understand that a full registration for this use will not be granted until additional field residue trial data are submitted.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

93-



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243135

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input checked="" type="checkbox"/> Resubmission in response to Agency letter dated <u>3/21/96</u>	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Preharvest use of glyphosate on corn (PP# 8F3673)  
Request for a time limited/conditional registration  
Submission of a revised Section F

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received JUN 21 AM 11:47 Stamped REC'D EPA/OPP/OPD2 14
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date <i>June 20, 1996</i>	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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**SECTION F  
(REVISED)**

**PROPOSED TOLERANCES**

Monsanto requests that the following tolerances be established for residues of glyphosate [N-(phosphonomethyl) glycine] resulting from the application of the isopropylamine salt of glyphosate and/or the monoammonium salt of glyphosate in or on the following raw agricultural commodities:

**Glyphosate  
40 CFR §185.364(d)**

Corn grain, field.....	1.0 ppm
Corn fodder, field.....	100 ppm
Aspirated grain fractions.....	200 ppm

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 28 1997

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite 1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Add Preharvest Grain Sorghum)  
EPA Registration No. 524-475  
Your Application Dated June 25, 1996

The amendment referred to above, submitted in connection with registration under section 3 (c) (7) (A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Will submit, upon EPA's request and according to a schedule determined by the Agency, such information as the Agency directs to be submitted in order to evaluate issues related to whether glyphosate shares a common mechanism of toxicity with any other substance and, if so, whether any tolerances for glyphosate need to be modified or revoked.
2. You will submit four (4) additional residue trials, one in Region II, one in Region VI and two in Region VIII within three years of the date of this letter.
3. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on preharvest grain sorghum is conditionally registered, in accordance with FIFRA Section 29. The fiscal year begins October 1 and ends September 30. Production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

This information should be submitted to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Document Processing Desk (RSB)  
401 M Street SW., CM#2  
Washington, DC 20460

CONCURRENCES							
SYMBOL	7504C						97
SURNAME	V. K. W. DE						
DATE	3/28/97						

3. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labels are enclosed for your records.

This registration expires four (4) years from the date of this letter.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

98

## SUPPLEMENTAL LABELING

'96 JUN 26 P12:09

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

### ROUNDUP ® ULTRA

Herbicide by Monsanto

EPA Reg. No. 524-475

---

#### PREHARVEST APPLICATIONS IN GRAIN SORGHUM (MILO)

---

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

---

® Roundup is a registered trademark of Monsanto Company.

---

#### DIRECTIONS FOR USE

---

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

---

#### RECOMMENDATIONS

This product may be used prior to harvest of grain sorghum (milo) to control annual and perennial weeds listed on the label booklet for Roundup Ultra herbicide.

Apply up to 2 quarts of this product per acre.

**ACCEPTED**

MAR 28 1997

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

99-



Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

Note: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

---

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

---

© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

100



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243138

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental label for preharvest applications in grain sorghum (milo)

## Section - III

1. Material This Product Will Be Packaged In:		2. Type of Container	
<input type="checkbox"/> 1-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Unit Packaging wgt.      No. per container	<input type="checkbox"/> Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Package wgt      No. per container	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	
		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received JUN 26 PM 2:08 RECEIVED EPA/OPRD/OPD2 101
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date June 25, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

Applicants Name and Address

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

EPA File Symbol/Registration Number

524-475

Product Name

Roundup® Ultra Herbicide

Date of Application

June 25, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
    - ☒ I am the original submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
    - a. ☒ I am the original data submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to:
      - (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and
      - (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
      - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
      - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

*Sheila A. Schuette*

Name and Title

Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs

Date

*June 25, 1996*

**General Offer to Pay:** I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

## SUPPLEMENTAL LABELING

'96 JUN 26 P12:09

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

### ROUNDUP ® ULTRA

Herbicide by Monsanto

EPA Reg. No. 524-475

---

#### PREHARVEST APPLICATIONS IN GRAIN SORGHUM (MILO)

---

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

---

® Roundup is a registered trademark of Monsanto Company.

---

#### DIRECTIONS FOR USE

---

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

---

#### RECOMMENDATIONS

This product may be used prior to harvest of grain sorghum (milo) to control annual and perennial weeds listed on the label booklet for Roundup Ultra herbicide.

Apply up to 2 quarts of this product per acre.

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Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

Note: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

---

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

---

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MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

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# Monsanto

RECD EPA/OPP/DPD2

96 JUN 26 AM 10 39

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

June 25, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Label for Preharvest Applications**  
**in Grain Sorghum (Milo)**

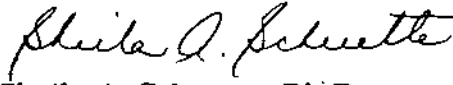
Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra herbicide (EPA Reg. No. 524-475) for preharvest applications in grain sorghum (milo). A conditional registration for this use is pending. This label is identical to the label that was previously submitted for Roundup herbicide (EPA Reg. No. 524-445).

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

  
Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

July 11, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Preharvest Use of Glyphosate on Grain Sorghum (Milo)**  
**Pesticide Petition 8F3672**  
**Request for Clarification of Agency Letter Dated April 17, 1996**

Dear Sir:

The Agency's letter of April 17 regarding additional residue trials required for full registration of glyphosate preharvest to grain sorghum states that a minimum of 12 field trials are required. However, the letter lists the following number of trials by region: II (1), IV (2), V (4), VI (2), VII (1), and VII (3), which makes a total of thirteen. According to the June 1994 guidance on the number and location of field trials, we believe that only one (1) trial is required in Region IV. If our assumption is correct, Monsanto believes that we must conduct four (4) additional residue trials, as follows:

Region	II	IV	V	VI	VII	VIII
Required # of Sites	1	1	4	2	1	3
# of Sites Completed		1	4	1	1	1
# of Sites Still Needed for Full Registration	1			1		2

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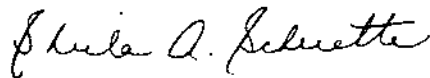


Preharvest Grain Sorghum  
July 11, 1996  
Page 2

Monsanto requests clarification from the Agency on the number and location of additional residue trials required to support the preharvest registration of glyphosate on grain sorghum.

Please contact me or Russ Schneider if you have any questions regarding this request.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
M.S. Bleeke

Talked with Phil Ennis  
3/18/97. Agree 4 additional  
trial necessary.

VKW

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

April 17, 1996

MEMORANDUM

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

SUBJECT: PP# 8F03672, EPA Reg. No. 524-445. Glyphosate (417300; 103601) in or on Sorghum. Petition Amendment Dated August 14, 1994. MRID Nos. 433420-00, 433420-01, 433420-02. D207119, D207121. Case Nos. 002698, 280708. CB Nos. 14303, 14304.

FROM: Stephanie H. Willett, Chemist *SHW*  
Tolerance Petition Section II  
Chemistry Branch I-Tolerance Support  
Health Effects Division (7509C)

THRU: Edward Zager, Acting Branch Chief  
Chemistry Branch I-Tolerance Support  
Health Effects Division (7509C) *Edward Zager*

TO: Robert Taylor, Product Manager  
Vickie Walters, Team 25 Reviewer  
Registration Division (7505C)  
and  
Debbie McCall, Acting Section Head  
Registration Section, RCAB/HED (7509C)

Background

Monsanto previously submitted this petition requesting tolerances for residues of the herbicide glyphosate (N-(phosphonomethyl)-glycine) in/on sorghum grain, fodder, forage, and milled fractions (excluding grits) at 5, 20, 20 and 25 ppm, respectively. The petition was initially reviewed by CBTS in 1988 (see 11/18/88 memo of S. Willett), and only a revised section F and grain dust data were needed as of the last review of CBTS (see 9/5/90 review of S. Willett). However, it was subsequently learned that the sorghum residue data were generated by Craven Labs, and therefore its validity was suspect. CBRS determined that new data were needed (see 10/21/91 and 4/26/93 memos of M. Metzger). This submission contains the new data, requests an increased use rate and tolerances only for grain sorghum, fodder and grain sorghum aspirated grain fractions of 15, 40, and 100 ppm, respectively. Tolerances for forage are no longer proposed since in the proposed preharvest use the pesticide is applied one week prior to harvest, which is after the forage stage of the sorghum.



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

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Tolerances for glyphosate and its major metabolite AMPA (aminomethyl phosphonic acid), are currently established for numerous commodities, processed foods and feeds under 40 CFR § 180.364, 185.3500 and 86.3500, respectively. The Glyphosate Reregistration Eligibility Decision (RED) document was issued in September 1993. In that document, it was concluded that dietary risk resulting from the (then) established tolerances ( $\geq 85$ ) and registered uses of pesticide products containing the isopropylamine and sodium salts of glyphosate was minimal.

#### Conclusions Resulting From Review of This Submission

All residue chemistry residue issues have been adequately addressed with the exception of the following:

- o The sorghum field trial residue data are acceptable. However, according to the most recent guidance on the conduct of residue field trials issued in 1994, the data are inadequate in quantity and location since the total trials numbered only eight, with the following regional distribution: IV (1), V (4), VI (1), VII (1), and VIII (1). A minimum of 12 field trials in regions II (1), IV (2), V (4), VI (2), VII (1), and VIII (3) are needed in support of a tolerance on sorghum and its related commodities. Since the field trial data were generated in 1992, prior to the issuance of our June 1994 guidance, CBTS would have no objection to the issuance of a conditional registration until the additional field trials are conducted.
- o An individual tolerance for "grain sorghum" aspirated grain fractions is not needed since aspirated grain fractions are normally a composite of more than one grain, typically corn, wheat, sorghum and/or soybeans. If a pesticide is used on several crops, such as is the case with glyphosate, then the RAC with the highest residues in dust will be used to establish the aspirated grain fractions tolerance. Since a 200 ppm tolerance is currently pending as a result of use on corn, and has been determined to be acceptable at least on an interim basis (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), the petitioner should submit a revised Section F deleting the proposed 100 ppm tolerance for sorghum grain aspirated grain fractions.
- o Glyphosate residues are expected to be nondetectable in milk, meat, fat and eggs at animal exposure levels of up to 400 ppm (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), and therefore the proposed use on sorghum does not cause concern for the possibility of unacceptable secondary residue levels in these commodities (animal dietary burden  $\leq 66$  ppm). The presently established 0.5 ppm glyphosate tolerance for kidney and liver is based on an animal exposure level of up to 40 ppm (see also

3/16/96 memo of W. Cutchin). Although the liver tolerance does not need to be increased for the proposed uses on corn and alfalfa, the kidney tolerance does need to be raised (see W. Cutchin memo, PP No. 8F3673). Glyphosate tolerances for kidney of cattle, goats, hogs, horses, poultry, and sheep are in the process of being raised to 4 ppm as a result of a preharvest use of glyphosate on alfalfa where exposure could be up to 157 ppm (PP No. 4F4312, M. Rodriguez, 1/11/95). The establishment of these higher tolerances for kidney will be necessary before CBTS can recommend for the establishment of the proposed tolerance on grain sorghum.

### Recommendations

Upon submission of a revised Section F deleting the proposed tolerance for grain sorghum aspirated grain fractions, and the establishment of the revised tolerance for animal kidney as required in support of pending uses on alfalfa, CBTS could recommend for the establishment of the proposed tolerances on grain sorghum at 15 ppm and sorghum fodder at 40 ppm in connection with a time limited/conditional registration for Roundup herbicide. Additional field trial data as specified in the conclusions section above are needed prior to a full registration.

**NOTE TO RCAB:** A DRES run can be initiated using 15 ppm as the tolerance for sorghum grain and a 4 ppm tolerance for the kidney of cattle, goats, hogs, horses and sheep.

### Detailed Considerations

Since the petition has been pending for over eight years, and the regulatory status and internal policies have changed since the initial filing of the petition, a brief reassessment of all residue chemistry data requirements is appropriate.

### Proposed Use

For control of several annual and perennial weeds, ROUNDUP<sup>®</sup> herbicide (isopropylamine sodium salt; EPA Reg. No. 524-445; 4 lb ai/gallon EUP; 3 lb acid equivalents/gallon EUP) is to be applied at least 7 days prior to harvest of grain sorghum (milo). The maximum application rate is 2 quarts Roundup/acre (2 lb ai/acre; 1.5 lb ae/acre).

This proposed use differs from the initial proposed use. The previously proposed use specified an application rate of 1 quart of end use product per acre, which was ROUNDUP [EPA Reg No. 524-308AA] containing 3 lb ai/gal. The application rate was therefore 0.75 lb ai/A, to be applied at least 7 days prior to harvest.

///

### Plant and Animal Metabolism

The HED Metabolism Committee has decided that only glyphosate parent is to be regulated in plant and animal commodities, and that AMPA is not of toxicological concern regardless of its level in food (Memo, R. Perfetti 3/17/94).

### Analytical Methodology

Adequate enforcement methods are available for analysis of residues of glyphosate in or on plant commodities. These methods include GLC (PAM II; the limit of detection is 0.05 ppm), and HPLC with fluorometric detection. Use of the GLC method is being discouraged due to lengthiness of the procedure. The HPLC method has undergone successful Agency validation and was recommended for inclusion in PAM II; the limit of detection is 0.0005 ppm. A GC/MS method for glyphosate in crops has also been validated by ACL (Memo, G. Kramer 3/21/95). This method has not yet been submitted for publication in PAM-II.

### Residue Data

(MRID No. 433420-01)

Roundup<sup>®</sup> herbicide (41% ai) was applied using ground equipment as a single preharvest treatment at eight locations in Arkansas (1), Kansas (2), Missouri (1), Nebraska (1) Oklahoma (1), South Dakota (1), and Texas (1) in 1992. The application rates were 0.74 (Texas only) to 0.75 (0.5X) lb ai acid equivalents/acre, and 1.48 (Texas only) to 1.50 (1X) lb ae/acre, and the spray volume ranged from 10 to 20 gal/acre. Six to eight days after application of glyphosate, grain and fodder samples were harvested from control, 0.5 X, and 1X plots, and stored frozen until analyzed. The remaining milo stalk and foliage was allowed to field dry to produce milo hay that was then harvested and frozen for analysis. Hay samples were collected 10 to 15 days after the application of glyphosate. All samples were analyzed within 14 months. Storage stability data have been reviewed which shows that glyphosate is stable in a variety of crop matrices for up to 36 months of frozen storage at -18 °C (Memo, C. Eiden 11/17/94).

Control and 1X samples were subsequently analyzed to determine residues of glyphosate using an HPLC/fluorescence detection method, which is the preferred method (see also 2/96 memo of G. Kramer). Briefly, the method involves extraction of glyphosate and AMPA with dilute hydrochloric acid (HCl). The extract solution was eluted through a Chelex<sup>®</sup> 100 (Fe III) resin, and the retained glyphosate and AMPA iron salts are subsequently eluted with 6N HCl. The isolated glyphosate and AMPA iron salts are then applied to a strong anion exchange resin and eluted with 6N HCl to remove the iron and obtain free acids of glyphosate and AMPA. After

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concentration to dryness (to remove HCl) the samples are redissolved in a specified volume of water, and analyzed by HPLC using o-phthalaldehyde post column derivation.

To validate the method, control grain samples were fortified with glyphosate at levels ranging from 0.05 to 3.0 ppm and analyzed concurrently with field samples using the methodology described above. Glyphosate recoveries ranged from 68 to 104% (avg 87%). When fodder check samples were fortified over a range of 0.05 to 20 ppm with glyphosate, recoveries ranged from 75 to 101% (avg 84%) for glyphosate. When hay samples were fortified with glyphosate over a range of 0.05 to 10.0 ppm, glyphosate recoveries ranged from 58 to 102% (avg. 84%). Additionally, recoveries from laboratory fortified samples spiked with glyphosate over a range of 0.05 to 3.0 ppm were analyzed concurrently with field treated samples. Average recoveries grain, fodder, and hay were acceptable ( $\geq 70\%$ ).

Table 1 summarizes the results of the analyses of sorghum grain, fodder, and hay. Results reported here are the averages of the analyses of duplicate samples (see pages 16 to 18 of report).

TABLE 1: MEAN RESIDUE LEVELS OF GLYPHOSATE FOUND IN SORGHUM (MILO) GRAIN, FODDER, AND HAY FOLLOWING PREHARVEST APPLICATION OF ROUNDUP HERBICIDE

LOCATION	PHI GRAIN, FODDER, HAY	PPM GLYPHOSATE GRAIN	PPM GLYPHOSATE FODDER	PPM GLYPHOSATE HAY
ARKANSAS	8, 8, 12	1.7	15.8	17.5
KANSAS-SITE A	6, 6, 11	5.3	33.1	14.7
KANSAS-SITE B	8, 8, 11	12.5	29.3	37.0
MISSOURI	7, 7, 15	6.0	27.9	15.4
NEBRASKA	8, 8, 12	1.8	7.0	4.3
OKLAHOMA	7, 7, 14	6.3	29.5	36.1
SOUTH DAKOTA	7, 7, 10	13.5	2.9	6.4
TEXAS	8, 8, 11	1.4	8.2	3.1

Supporting data (e.g. protocols, storage and handling, chromatograms) were contained in the report. Based on these data, the registrant is proposing a 15 ppm tolerance for sorghum grain, and a 40 ppm tolerance for fodder. Tolerances for forage are no longer proposed since in the proposed preharvest use the pesticide is applied one week prior to harvest, which is after the forage stage of the sorghum (cf. pending use on corn, PP No. 8F3673). Sorghum hay is not considered to be a raw agricultural commodity.

CBTS concludes that the reported data are acceptable. However, according the most recent guidance on the conduct of residue field trials issued in 1994, the data are inadequate in quantity and

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location since the total trials numbered only eight, with the following regional distribution: IV (1), V (4), VI (1), VII (1), and VIII (1). A minimum of 12 field trials in regions II (1), IV (2), V (4), VI (2), VII (1), and VIII (3) are needed in support of a tolerance on sorghum and its related commodities.<sup>1</sup> Since the field trial data were generated in 1992, prior to the issuance of our June 1994 guidance, CBTS would have no objection to the issuance of a conditional registration until the additional field trials are conducted.

It is noted that glyphosate tolerances for corn and its related commodities are pending, and tolerances for wheat and its related commodities have already been established. Since sorghum, corn and wheat are all commodities in the cereal grain crop group, and the registered and pending uses all involve a similar preharvest use with application rates of 1 to 3 quarts of various formulations of Roundup, it may be appropriate to pursue a cereal grains crop group tolerance.

Processing Study Data  
(MRID No. 433420-22)

Sorghum from test sites in Kansas (A) and Texas (see table 1 above) was processed using simulated industrial practices for dry and wet milling of sorghum. Samples of clean grain, grain dust, bran, grits and flour were analyzed using methodology described above after being stored frozen for 626 days (approximately 21 months) or less. Storage stability data have been reviewed which show that glyphosate is stable in a variety of crop matrices for up to 36 months of frozen storage at -18 °C (Memo, C. Eiden 11/17/94).

Average glyphosate residues in grain from the Kansas site were determined to be 4.47 ppm prior to processing, and average glyphosate residues in grain from the Texas site were determined to be 1.08 ppm prior to processing. The average residue levels of glyphosate found in milo bran were 17.8 ppm at the Kansas location, and 6.38 ppm at the Texas location. Therefore, the resulting concentration factors for glyphosate in milo bran were 3.99 and 5.92 for the Kansas and Texas locations, respectively. The average residue levels in glyphosate in milo grain dust were 28.2 ppm at the Kansas location and 3.8 ppm at the Texas location. Therefore the resulting concentration factors for grain dust were 6.31 and 3.52 for the Kansas and Texas locations, respectively. Glyphosate residues did not concentrate in milo clean grain, flour, germ, starch or grits. Supporting data (e.g. protocols, storage and handling, chromatograms) were contained in the report. Based on these data, the registrant is proposing a 100 ppm feed additive

<sup>1</sup>See Pesticide Reregistration Rejection Rate Analysis Residue Chemistry: Followup Guidance, EPA 738-X-94-001, June 1994.

tolerance for grain sorghum aspirated grain fractions. Since no other food and feed items are now associated with grain sorghum, the previously proposed FAT of 25 ppm for sorghum milling fractions is no longer needed and has been deleted from the Section F by the registrant (see Table II 1995).

CBTS concludes that the sorghum processing study is acceptable. Based on an average concentration factor of 5X observed from the processing of incurred residue samples from the Kansas and Texas field trials, and considering the highest residue field trial (HAFT) residue value of 13.5 ppm (see table 1 above), a 100 ppm tolerance for glyphosate in aspirated grain fractions resulting from the proposed use on sorghum would be adequate. However, the petitioner is advised that an individual tolerance for "grain sorghum" aspirated grain fractions is not needed since aspirated grain fractions are normally a composite of more than one grain, typically corn, wheat, sorghum and/or soybeans. If a pesticide is used on several crops, such as is the case with glyphosate, then the RAC with the highest residues in dust will be used to establish the aspirated grain fractions tolerance.<sup>2</sup> Since a 200 ppm tolerance is currently pending as a result of use on corn, and has been determined to be acceptable at least on an interim basis (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), the petitioner should submit a revised Section F deleting the proposed 100 ppm tolerance for sorghum grain aspirated grain fractions.

#### Secondary Residues in Meat, Milk, Poultry and Eggs

Sorghum grain, fodder and aspirated grain fractions may comprise up to 40%, 25% and 20%, respectively, of the cattle diet. Assuming a worst case diet [55% grain (40% sorghum grain and 15% corn grain), 25% sorghum fodder and 20% aspirated grain fractions] for beef cattle, the maximum exposure to cattle is estimated to be 66 ppm. This is assuming that tolerance levels of 15 ppm and 40 ppm are present in grain and fodder, respectively, and incorporates the pending glyphosate tolerances of 1 ppm and 200 ppm, respectively, on field corn grain and aspirated grain fractions. Sorghum grain may comprise up to 80% of the diet of poultry (dietary burden = 14 ppm), and up to 90% of the diet of swine (dietary burden = 16 ppm).

Glyphosate residues are expected to be nondetectable in milk, meat, fat and eggs at exposure levels of up to 400 ppm (see 3/16/96 memo of W. Cutchin, PP No. 8F3673), and therefore the proposed use on sorghum does not cause concern for the possibility of unacceptable secondary residue levels in these commodities. The presently established 0.5 ppm glyphosate tolerance for kidney and liver is based on an animal exposure level of up to 40 ppm (see also 3/16/96

<sup>2</sup> See Pesticide Reregistration Rejection Rate Analysis Residue Chemistry: Followup Guidance, EPA 738-X-94-001, June 1994.

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memo of W. Cutchin). Glyphosate tolerances for kidney of cattle, goats, hogs, horses, poultry, and sheep are in the process of being raised to 4 ppm as a result of a preharvest use of glyphosate on alfalfa where exposure could be up to 157 ppm (PP No. 4F4312, M. Rodriguez, 1/11/95). Although the liver tolerance does not need to be increased for the proposed uses on corn and alfalfa, the kidney tolerance does need to be raised (see 4/9/96 memo of W. Cutchin, PP No. 8F3673). The establishment of these higher tolerances for kidney will be necessary before CBTS can recommend for the establishment of the proposed tolerance on grain sorghum.

cc: RF, Circ, S. Willett, E. Haeberer, PP No. 8F3672  
7509C:CM2:RM804C:305-6380:SHWillett:shw-4/8/96  
RDI: E. Haeberer, 4/9/96; R. Loranger, 4/16/96; E. Zager, 4/17/96

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 28 1997

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite 1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra RT Herbicide (Add Preharvest Grain Sorghum)  
EPA Registration No. 524-475  
Your Application Dated June 25, 1996

The amendment referred to above, submitted in connection with registration under section 3 (c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable provided that you:

1. Will submit, upon EPA's request and according to a schedule determined by the Agency, such information as the Agency directs to be submitted in order to evaluate issues related to whether glyphosate shares a common mechanism of toxicity with any other substance and, if so, whether any tolerances for glyphosate need to be modified or revoked.
2. You will submit four (4) additional residue trials, one in Region II, one in Region VI and two in Region VIII within three years of the date of this letter.
3. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4(a) when the Agency requires all registrants of similar products to submit such data.
4. Submit production information (pounds or gallons produced) for this product for the fiscal year in which the use on preharvest grain sorghum is conditionally registered, in accordance with FIFRA Section 29. The fiscal year begins October 1 and ends September 30. Production information will be submitted to the Agency no later than November 15, following the end of the preceding fiscal year.

This information should be submitted to:

U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Document Processing Desk (RSB)  
401 M Street SW., CM#2  
Washington, DC 20460

CONCURRENCES							
SYMBOL	75052						
SURNAME	V.K. Walker						
DATE	3/28/97						

3. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labels are enclosed for your records.

This registration expires four (4) years from the date of this letter.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

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## SUPPLEMENTAL LABELING

96 JAN 26 P12:25

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT and this supplement.

### ROUNDUP ® ULTRA RT

Herbicide by Monsanto

EPA Reg. No. 524-475

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#### PREHARVEST APPLICATIONS IN GRAIN SORGHUM (MILO)

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Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

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® Roundup is a registered trademark of Monsanto Company.

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#### DIRECTIONS FOR USE

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

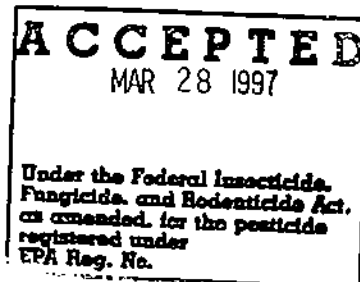
See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra RT herbicide for essential product performance information.

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#### RECOMMENDATIONS

This product may be used prior to harvest of grain sorghum (milo) to control annual and perennial weeds listed on the label booklet for Roundup Ultra RT herbicide.

Apply up to 2 quarts of this product per acre.



Make applications at 30% grain moisture or less and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label booklet for instructions.

Note: It is not recommended that grain sorghum grown for seed be treated because a reduction in germination or vigor may occur.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

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© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243140

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental label for preharvest applications in grain sorghum (milo)

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
* Certification must be submitted				<input type="checkbox"/> Plastic	
	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2468
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		8. Date Application Received JUN 26 1996 (Stamped) RECEIVED/OPP/PO2 121
2. Signature Sheila A. Schuette	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date June 25, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of Submission** - Check the applicable block and provide the Agency letter, date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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United States Environmental Protection Agency  
Washington, DC 20460

**Certification with Respect to Citation of Data**

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

**Applicants Name and Address**

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

**EPA File Symbol/Registration Number**

524-475

**Product Name**

Roundup® Ultra RT Herbicide

**Date of Application**

June 25, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,

☒ I am the original submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

a. ☒ I am the original data submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*; or

b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)

☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)

☐ Those companies that have submitted the studies which I have cited (Selective method\*).

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature	Name and Title	Date
<i>Sheila A. Schuette</i>	Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	<i>June 25, 1996</i>

**General Offer to Pay:** I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature	Name and Title	Date
		<i>123</i>



A

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RECD EPA/OPP/DPD2

**Monsanto**

96 JUN 26 10 28

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

June 25, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Label for Preharvest Applications**  
**in Grain Sorghum (Milo)**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra RT herbicide (EPA Reg. No. 524-475) for preharvest applications in grain sorghum (milo). A conditional registration for this use is pending. This label is identical to the label that was previously submitted for Roundup herbicide (EPA Reg. No. 524-445).

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

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Mr. Russell P. Schneider  
Monsanto Agricultural Co.  
700 14th St., N.W. Suite 1100  
Washington, DC 20005

MAR 20 1997

Dear Mr. Schneider:

Subject: MON-65005 Herbicide  
EPA Reg. No. 524-475  
Your Submission of January 23, 1997

The information submitted to address the conditions of registration of the product for use on glyphosate-tolerant soybeans has been reviewed.

The information submitted did not adequately address the effects on reduction of herbicide usage and tillage practices due to the introduction of Roundup-Ready soybeans. The figures presented for Roundup were estimates of usage rather than actual data. Additionally, the figures included for the use of other herbicides was not collected concurrently with the production of Roundup-Ready soybeans. In the determination of cost estimates, it was not indicated whether the costs related to herbicide use in 1993/1994 were adjusted to 1996 prices. The difference may or may not be significant but it should be addressed. If the genetically modified soybeans cost more than the unmodified soybeans, the price difference would need to be added to the cost of the herbicide to determine the costs due to use of Roundup-Ready soybeans. Also note that Figure 4 was omitted from "Herbicide Use with the Introduction of Roundup-Ready Soybeans."

Data must be submitted to address the deficiencies indicated above. Future submissions must include data collected from actual use of the product on herbicide-tolerant soybeans and from other herbicides used in the same area and during the same growing season. These data must be collected to confirm the estimates provided in this submission.

Sincerely yours,

/s/

Donald R. Stubbs, Chief  
Fungicide-Herbicide Branch  
Registration Division (7505C)

7505C:C.Grable:cq:3/20/97

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EFFICACY REVIEW

DATE: IN 2/19/97 OUT 2/24/97

FILE OR REG. NO. 524-415

PETITION OR EXP USE PERMIT NO. \_\_\_\_\_

DATE DIVISION RECEIVED 1/23/97

DATE OF SUBMISSION \_\_\_\_\_

TYPE PRODUCT(S): I, D(H), F, N, R, \_\_\_\_\_

DATA ACCESSION NO(S) \_\_\_\_\_ RECORD NO. SS18704

PRODUCT MANAGER NO. 25

PRODUCT NAME(S) Man-65005 Herbicide

COMPANY NAME Monsanto Agricultural Co.

SUBMISSION PURPOSE Information on decreased herbicide  
usage for herbicide tolerant soybeans.

CHEMICAL AND FORMULATION glyphosate

CONCLUSIONS AND RECOMMENDATIONS See attached review.

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## EFFICACY REVIEW

### 200.0 Introduction

200.1 Use: Weed control in Roundup Ready (glyphosate-tolerant) soybeans.

200.2 Background: This submission addresses the conditional registration requirement for data demonstrating a decrease in herbicide usage as a result of introduction of glyphosate-tolerant soybean varieties.

### 201.0 Data Summary:

The information submitted included (1) a paper, "Herbicide Use with the Introduction of Roundup Ready Soybeans" and (2) a brochure, "Herbicide Use Today and After the Introduction of Roundup Ready Soybeans."

In (1), it is indicated that data were from a market survey conducted by Maritz Marketing Research, Inc. Data included the number of acres to which individual herbicides were applied and the expenditures/acre and total expenditures for each herbicide for the years 1993 and 1994. These data were divided into regions and total study area. Estimates were made of the acreage of Roundup Ready soybeans for 1996 and the amount of herbicide that will be applied and the cost. These estimates were projected by Sparks Companies, Inc. It was assumed that Roundup Ready soybeans would comprise 2% of the soybean acreage in 1996, increasing to 40% in 1999 and 2000.

The data from (1) were included in the brochure (2) which states that herbicide usage on an average 1993/1994 soybean acre was 1.01 lbs ai/acre and it was estimated that in 1996, an acre of Roundup Ready soybeans would receive 0.66 lbs ai/acre. This would result in a decrease of 0.35 lbs ai/acre. Cost per acre for herbicides in 1993/1994 was \$21.37 while the proposed cost/acre for herbicide applied to Roundup Ready soybeans for 1996 was estimated as \$9.32. The conclusions drawn were that overall herbicide use per acre would be decreased by approximately one third and that herbicide cost would be less than half of the previously used herbicide applications.

### 202.0 Conclusions:

The objections made for the bromoxynil-tolerant cotton study seem also to apply to this submission. It was not indicated how Maritz collected the data which were presented. Also, the data presented for the use of glyphosate was an estimate rather than

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actual data. Regarding cost estimates, it was not indicated whether herbicides used in 1993/1994 were adjusted to 1996 costs. The difference may or may not be significant. Additionally, for Roundup use, costs related to the soybeans themselves was not addressed. If genetically modified soybeans cost more than unmodified soybeans, the price increase would need to be added to the cost of the herbicide to determine the cost due to use of Roundup Ready soybeans.

Note that in (1), Figure 4 is missing.

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# Herbicide Use with the Introduction of Roundup Ready™ Soybeans

July 1996

Soybeans tolerant of Roundup® herbicide have now been developed. For the first time, Roundup can be applied over-the-top to kill weeds without harming Roundup Ready soybeans. Seed for Roundup Ready soybeans was introduced into the United States market in time for planting in 1996. The Monsanto Company, which manufactures Roundup® and developed Roundup Ready soybeans, enlisted the Sparks Companies, Inc. (SCI), an agricultural market research firm, to provide an objective study of the effects of the introduction of Roundup Ready soybeans on farmers' production costs and on quantifiable environmental conditions. This study was undertaken in 1995.

Monsanto representatives provided study assumptions regarding Roundup Ready soybean adoption rates. It was assumed that Roundup Ready soybeans would be adopted on 2% of soybean acres planted in the U.S. in 1996, and that this percentage will increase to 40% by 1999 and level off in the year 2000.

## Study Objectives

The specific objectives of this study were to determine how the introduction and adoption of Roundup Ready soybeans will affect an average soybean acre with respect to:

- (1) The pounds of active ingredient associated with herbicides that are applied;
- (2) The costs that farmers incur for herbicides; and
- (3) Other costs of production related to herbicide application.

By focusing on pounds of active ingredient, this study addresses quantifiable environmental effects of the introduction of Roundup Ready soybeans.

## Data Summary

The data from this study are summarized in the brochure: "HERBICIDE USE TODAY AND AFTER THE INTRODUCTION OF ROUNDUP READY™ SOYBEANS". (This brochure is 10 pages and is attached.)

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## Methodology

The methodology used to support the data in the brochure is summarized in the document, *Methodology for the Brochure "HERBICIDE USE TODAY AND AFTER THE INTRODUCTION OF ROUNDUP READY™ SOYBEANS"*. (This document is 5 pages and is attached.)

## Key Data

Enlarged graphs of key data from the study are also attached for quick reference.

FIGURE 1 - Illustrates the four soybean growing regions in the U.S. Herbicide use data were analyzed for each region and then averaged across all regions.

FIGURE 2 - Illustrates the pounds of herbicide active ingredient used on an average soybean acre today (averaged across all four soybean growing regions) compared to the herbicide use projected on an average Roundup Ready acre across all regions.

FIGURE 3 - Illustrates the pounds of herbicide active ingredient used per acre in each soybean growing region compared to the herbicide use projected for a Roundup Ready acre in each region. Total study area is also included.

FIGURE 4 - Illustrates the ten most widely used pre-emergent soybean herbicides and the pounds of active ingredient per acre used for each product. Herbicide rank (how widely it is used) is given in parentheses. Note that Treflan is the most widely used and that Lasso herbicide has the largest active ingredient use per acre.

FIGURE 5 - Illustrates the ten most widely used post-emergent soybean herbicides and the pounds of active ingredient per acre used for each product. Herbicide rank (how widely it is used) is given in parentheses. Note that Pursuit is the most widely used post-emergent herbicide and that Galaxy herbicide has the largest active ingredient use per acre. Note too, that Roundup herbicide will now be considered a post-emergent herbicide on Roundup Ready soybeans.

FIGURE - 6 - Illustrates the herbicide cost on average soybean acre (averaged across all soybean growing regions) compared to the cost projected for an average Roundup Ready acre.

FIGURE - 7 Illustrates the herbicide cost per acre in each of the soybean growing regions compared to the herbicide cost projected for a Roundup Ready acre in each region. Total study area is also included.

## **Methodology for the Brochure "Herbicide Use Today and After the Introduction of Roundup Ready™ Soybeans"**

In the brochure "Herbicide Use Today and After the Introduction of Roundup Ready™ Soybeans," comparisons are made between a Roundup Ready™ soybean acre in 1996 (the year the soybeans are introduced) and an average soybean acre from the 1993-94 period. The comparisons center around herbicide costs the quantity of active ingredient received through herbicide applications.

The starting point for estimating past conditions on an average acre was the herbicide market data available from Maritz Marketing Research, Inc. This study utilized Maritz data regarding the number of acres over which individual herbicides were applied, as well as the expenditures which were made for individual herbicides (in the form of both expenditures per acre and total expenditures for each herbicide). Separate Maritz reports were available for no-till soybean acres, tilled acres and total acres for the years 1993 and 1994 for the following regions:

- The West Central Region, encompassing North Dakota, South Dakota, Nebraska, Kansas, Colorado, Minnesota, Iowa and Missouri;
- The East Central Region, including Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania and New York;
- The Mid-South Region, composed of Arkansas, Louisiana, Kentucky, Tennessee, Mississippi and Alabama;
- The Southeast Region, including Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia and Florida; and
- The Total Study Area, which encompasses the four individual regions and thus covers the major soybean production areas of the United States.

The only major data category that had to be added to the Maritz information was the pounds of active ingredient (A.I.) associated with each herbicide. The pounds A.I. per acre were identified for individual herbicides; then for each herbicide, the pounds A.I. per acre were multiplied by the number of acres treated with that herbicide, in order to arrive at an estimate of the total pounds A.I.

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The data assembled on treated acres, pounds A.I. and expenditures formed the foundation for all calculations about the conditions which existed on an average soybean acre in 1993-94. The calculations consisted of a series of steps, Step IV involved several smaller tasks.

### **Step I: Aggregate the Data for In-Crop Herbicides**

In this step, data on treated acres, pounds A.I. and expenditures was simply summed across all herbicides applied in-crop (i.e., after the planting of seed).

### **Step II: Determine the Pounds of Active Ingredient Placed on an Average Acre from In-Crop Herbicides**

The pounds A.I. placed on an average acre through applications of in-crop herbicides were calculated by dividing total pounds A.I. for in-crop herbicides by the number of acres reported by Maritz as having been treated at least once with any herbicide. Total pounds A.I. were divided by acres treated at least once rather than by total acres grown since dividing by total acres grown would falsely underestimate the pounds A.I. placed on an average acre that was actually treated with in-crop herbicides.

### **Step III: Determine the Expenditures for In-Crop Herbicides on an Average Acre**

The expenditures for in-crop herbicides on an average acre were calculated by dividing the total expenditures for in-crop herbicides by the number of acres reported by Maritz as having been treated at least once with any herbicide. As in the calculation of pounds A.I., the calculations were based on acres treated at least once, in order not to underestimate expenditures for an average acre.

### **Step IV: Estimate the Pounds of Active Ingredient and Expenditures Associated With In-Crop Roundup Applications on an Average Roundup Ready™ soybean Acre**

#### ***Task 1: Estimate Conditions in the East Central, West Central and Southeast Regions***

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The East Central, West Central and Southeast regions are evaluated together since they are similar in terms of planting practices and the amount of Roundup which will be required per Roundup Ready™ soybean acre. For these regions, it is assumed that 65% of soybean planting will be narrow-row in 1996, and that this proportion will increase to 83% by the year 2000, with the remainder being wide-row.

Where wide-row planting of soybeans is done, 70% of the time only one Roundup application will be necessary; a second pass will be needed 30% of the time. Where narrow row planting is done, 90% of the time only one trip will be required, and a second pass will be necessary only 10% of the time.

On a Roundup Ready™ acre where one trip is required, 24 ounces of Roundup will be applied, containing 0.563 pounds of active ingredient and costing \$8.00. When a second trip is necessary, an additional 16 ounces of Roundup will be applied to an acre, for a total of 40 ounces. The 40 ounces contain 0.938 pounds of active ingredient and cost \$13.33.

Based on these estimates, calculations were made regarding pounds of active ingredient, herbicide cost and application trips associated with in-crop Roundup treatments on an average Roundup Ready™ acre. The results are shown in Table 2 in the brochure. Performing these calculations was straightforward based on the information given above, but a detailed methodology is depicted in Figure 1 at the end of this document.

### ***Task 2: Estimate Conditions in the Mid-South Region***

In the Mid-South, more in-crop Roundup treatments will be required. Where wide-row planting is done, there will always be a second trip to apply Roundup. Where narrow-row planting is done, there still will need to be a second trip half of the time. Soybean planting in the Mid-South is expected to be 35% wide-row and 65% narrow-row in 1996. Narrow-row planting is expected to increase, but not quite as much as in the other regions. By the year 2000, planting is assumed to be 75% narrow-row and 25% wide-row.

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Just as for the other regions, one application trip involves 24 ounces of Roundup, and two application trips involve 40 ounces; thus the herbicide cost and pounds of active ingredient associated with each application trip are the same as in the other regions.

The methodology for calculating expected values for pounds of active ingredient, herbicide costs and application trips per Roundup Ready™ acre in the Mid-South were the same as for other regions (again, as illustrated in Figure 1).

***Task 3: Aggregate Regional Results to Make Estimates for the Total Study Area***

Weighted averages were calculated for the total study area based on the regional estimates of pounds of active ingredient, herbicide cost and expected application trips. The weights were the average 1993-94 acres grown in each region.

**Step V: Compare Conditions on a Roundup Ready™ Soybean Acre In 1996 to an Average Soybean Acre from 1993-94**

Comparisons between a Roundup Ready™ soybean acre in 1996 and an average soybean acre from the 1993-94 period were made visually. Bar Charts 1 and 2 in the brochure graphically demonstrate how the pounds A.I. and herbicide costs will be lower on an average Roundup Ready™ soybean acre in 1996 than they were on an average soybean acre in 1993-94.

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**Figure 1: Methodology for Estimating In-Crop Pounds of Active Ingredient, Herbicide Cost and Trips per Acre Where Roundup-Ready Soybeans Are Adopted**

Trips Across an Average Acre

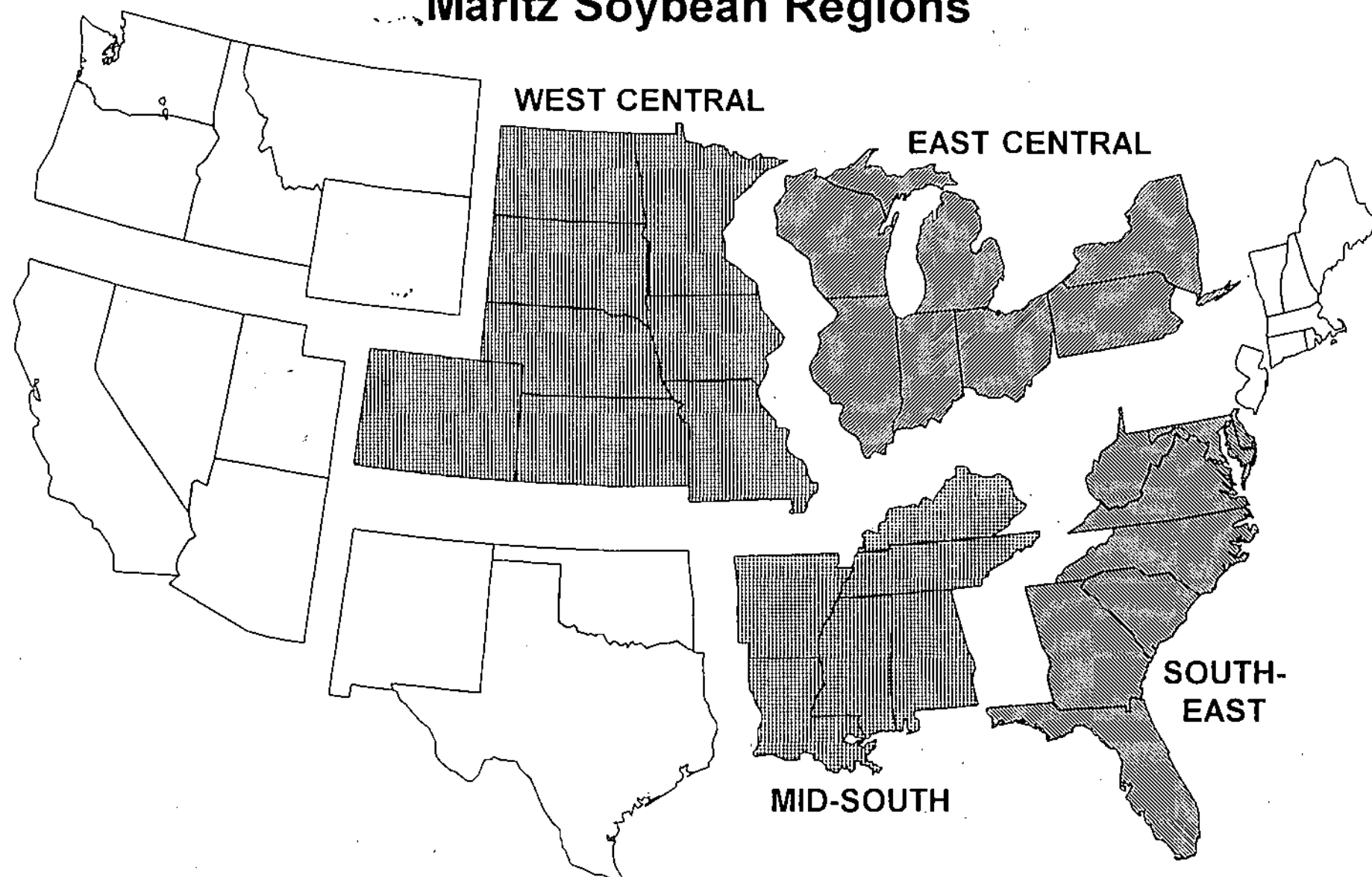
Wide Row	1 Trip	(A)	% of the Time
Narrow Row	1 Trip	(B)	% of the Time

Values for (A) Through (H) Are Assumptions

Rate	Oz./Acre	Lbs. A.I./Acre	Cost/Acre
1 Trip	(C)	(D)	(E)
2 Trips	(F)	(G)	(H)

	Wide Row	Narrow Row	1 Trip	2 Trips	Expected Trips	Oz./Acre	Lbs. A.I./Acre	Cost/Acre
1996	(J)	$K = 1 - J$	$L = (J \times A) + (K \times B)$	$M = 1 - L$	$N = (1 \times L) + (2 \times M)$	$P = (L \times C) + (M \times F)$	$Q = (L \times D) + (M \times G)$	$R = (L \times E) + (M \times H)$
1997	(Assumption)	(=100% - J%)		(=100% - L%)				
1998								
1999								
2000								

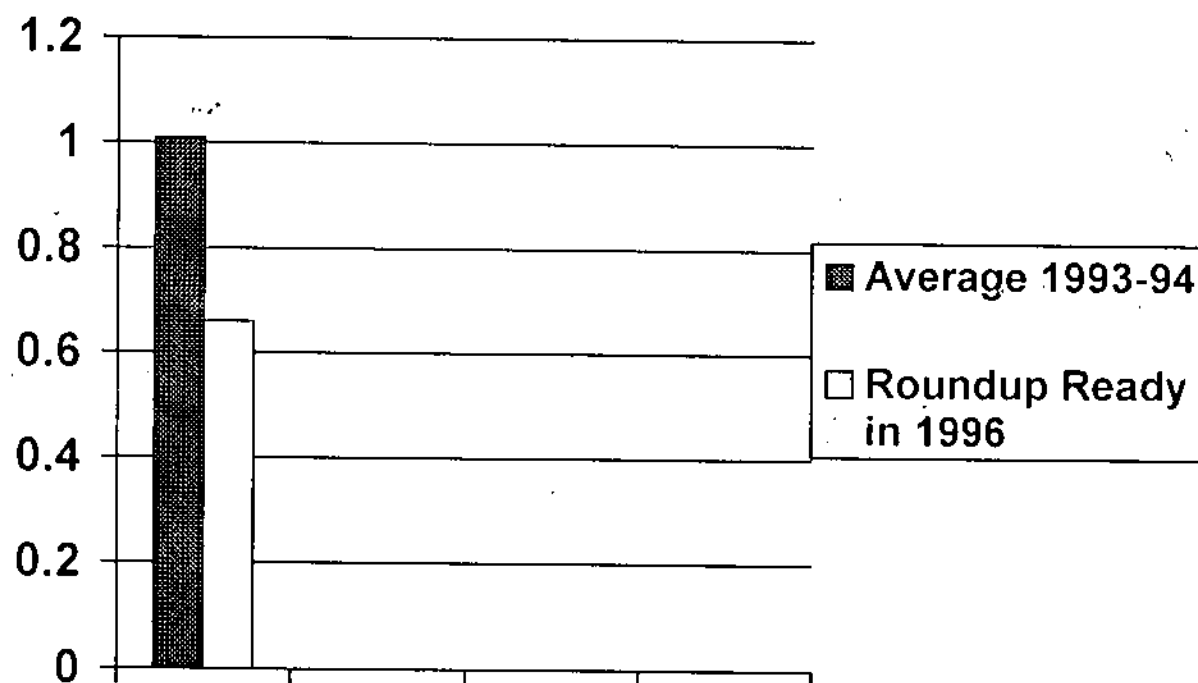
## Maritz Soybean Regions



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FIGURE 2

## In-crop Pounds of Active Ingredient per Acre Across All Soybean Acres

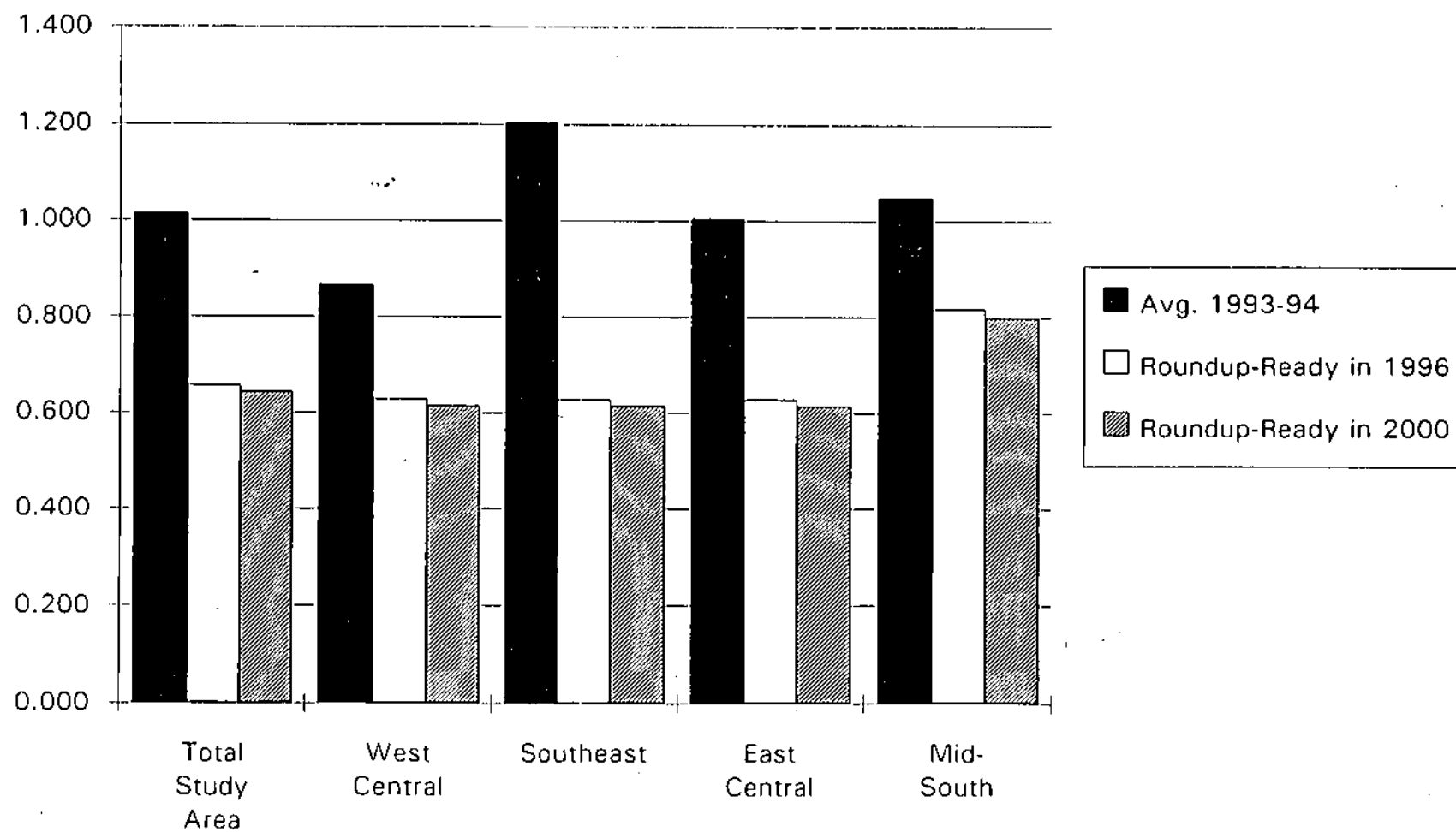


1996 by Sparks Companies, Inc.

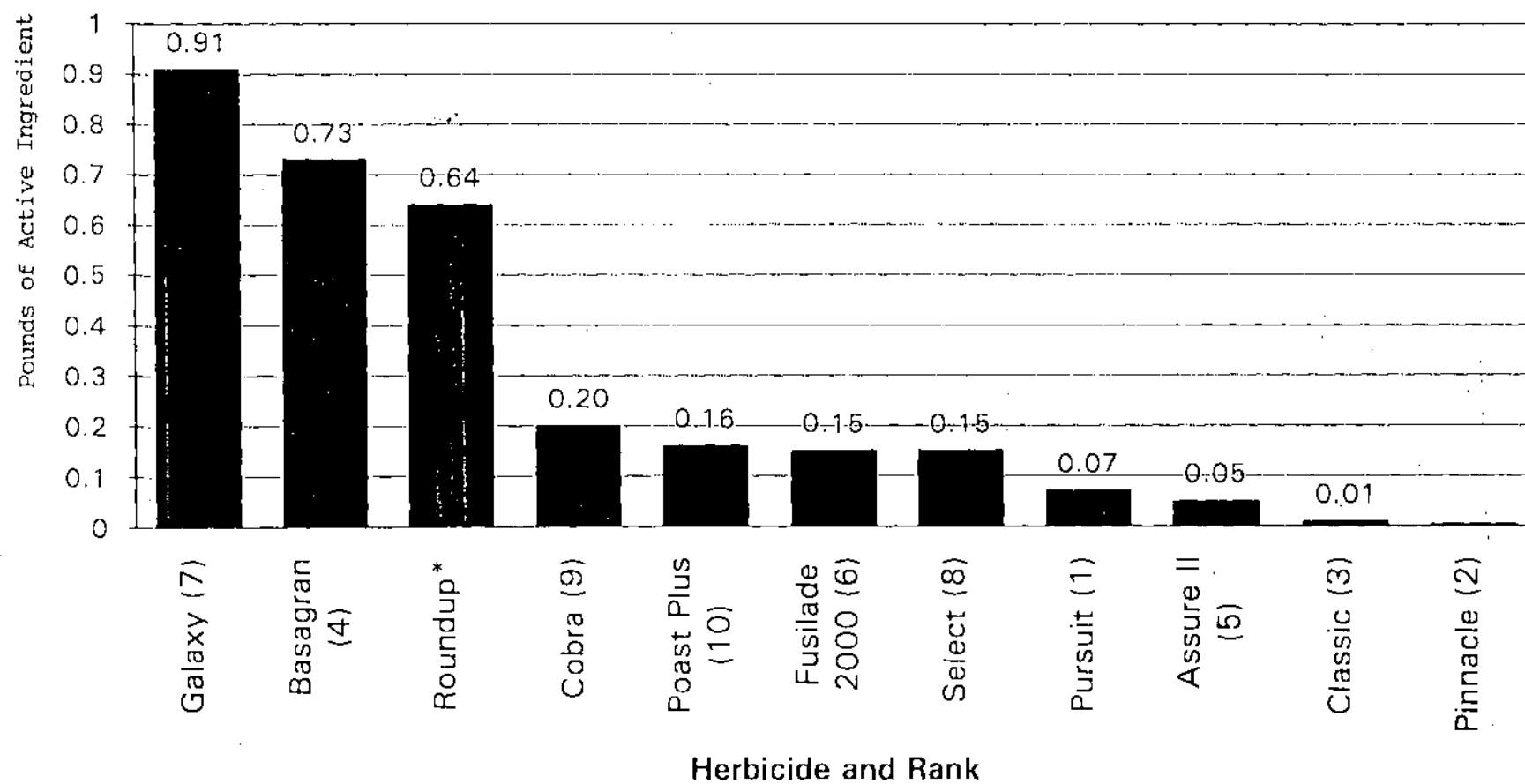
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FIGURE 3

# In-Crop Pounds of Active Ingredient per Acre



# Top 10 Post-Emergent Soybean Herbicides, 1994: Pounds of Active Ingredient per Acre



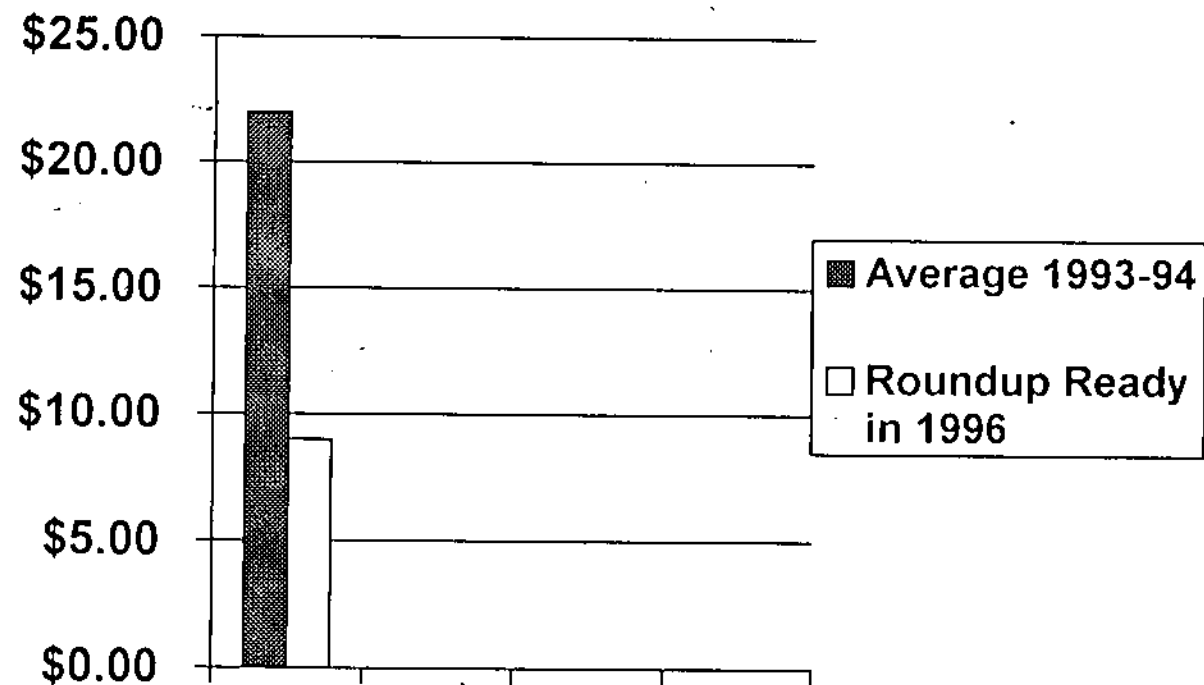
\* Year 2000 on Roundup Ready Soybean Acre

© 1996 by Sparks Companies, Inc.



FIGURE 6

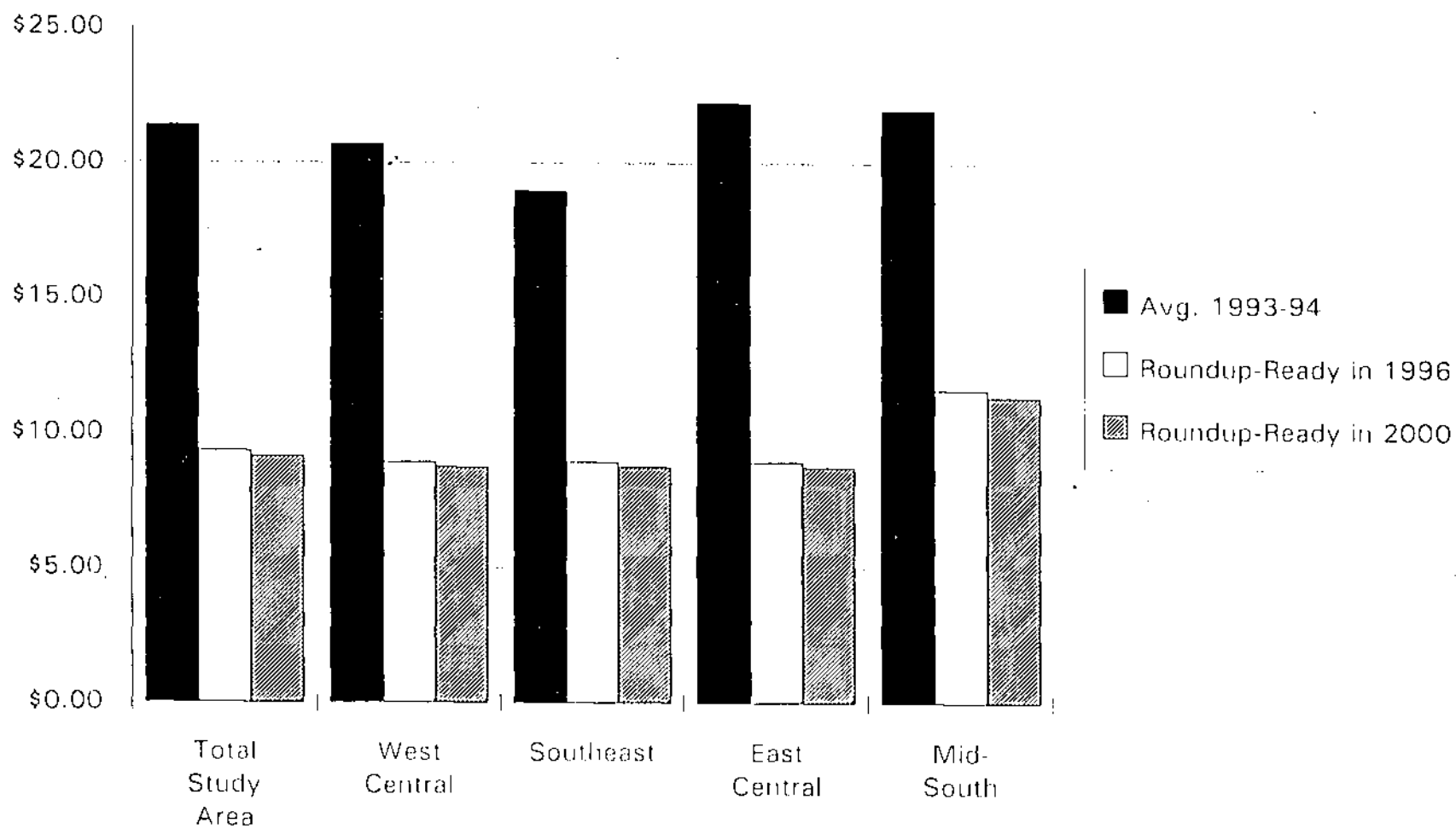
## In-crop Herbicide Cost per Acre Across All Soybean Acres



1996 by Sparks Companies, Inc.

FIGURE 7

# In-Crop Herbicide Cost per Acre



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR - 4 1997

Dr. Shelia A. Schuete  
Monsanto Company  
700 14 th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Add Several Crops Based on Crop Groupings and Other Changes)  
EPA Registration No. 524-475  
Your Application Dated February 6, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
2. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely.

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	OKWalters						
DATE	3/3/97						

# ROUNDUP ULTRA

Herbicide by Monsanto

## Complete Directions for Use

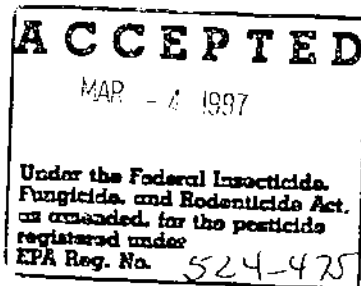
EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

1996-1

21137T1-2/53

"The President's Green Chemistry Award was presented in 1996 to Monsanto for its innovative "zero-waste" process in the manufacture of Roundup herbicide."



Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt..... 41.0%

INERT INGREDIENTS: ..... 59.0%  
100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

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This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

## **2.0 IMPORTANT PHONE NUMBERS**

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,  
CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL  
ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

1-(314)-694-4000

## **3.0 PRECAUTIONARY STATEMENTS**

### **3.1 Hazards to Humans and Domestic Animals**

Keep out of reach of children.

#### **CAUTION!**

#### **CAUSES EYE IRRITATION**

Avoid contact with eyes or clothing

**FIRST AID: IF IN EYES**, flush with plenty of water. Get medical attention if irritation persists.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

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### **Personal Protective Equipment (PPE)**

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations:**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**3.2 Environmental Hazards**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**3.3 Physical or Chemical Hazards**

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.



PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

#### 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

#### 5.0 GENERAL INFORMATION (HOW THIS PRODUCT WORKS)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactants, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to this product. Ammonium sulfate may be used. See the MIXING section of this label for instructions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody brush and trees rate tables for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

**Mode of Action:** The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**When this product comes in contact with soil, it is bound to soil particles. Under recommended use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering groundwater.**

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Volatility:** Roundup Ultra is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

**Toxicology Testing:** Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

For noncrop uses, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. ~~The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift.~~ When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

#### 6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR FROM PONDS AND DITCHES.

#### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. ~~Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations.~~ During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

#### 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.

2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

### 6.3 Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### Spray Solution

Desired Volume	Amount of Roundup Ultra					
	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2/3 oz	1-1/3 oz	2 oz	2-2/3 oz	6-1/2 oz	13 oz
25 Gal	1 pt	1 qt	1-1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1-1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### 6.4 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, particularly when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

### 6.5 Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

### 6.6 Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial—Fixed Wing and Helicopter**

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held and High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS. This product plus Oust™, Banvel or 2,4-D tank mixtures may not be applied by air in California.

Avoid direct application to any body of water.

AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

~~Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.~~

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

### 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

### 7.3 Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the annual weeds rate tables, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

#### **7.4 Selective Equipment**

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

#### **AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above ~~desired~~ desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

#### **Shielded and hooded applicators**

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

## Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

For Rope or Sponge Wick Applicators—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section.

For Porous-Plastic Applicators—Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended, this product **CONTROLS** the following weeds:

Com, volunteer	Sicklepod
Panicum, Texas	Spanishneedles
Rye, common	Starbur, bristly
Shattercane	

When applied as recommended, this product **SUPPRESSES** the following weeds:

Beggarweed, Florida	Ragweed, common
Bermudagrass	Ragweed, giant
Dogbane, hemp	Smutgrass
Dogfennel	Sunflower
Guineagrass	Thistle, Canada
Johnsongrass	Thistle, musk
Milkweed	Vaseygrass
Nightshade, silverleaf	Velvetleaf
Pigweed, redroot	

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.



## 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Also refer to the "SELECTIVE EQUIPMENT" section.

For any crop not listed in this "CROPS" section, applications must be made at least 30 days prior to planting.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

When applying this product prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

### 8.1 Alfalfa, and Clover, and Other Forage Legumes

LABELLED CROPS: Alfalfa, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, velvet bean, vetch, crown vetch, milk vetch

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, wiper applicators, renovation, preharvest

#### **Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting alfalfa and clover. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Preharvest (Alfalfa only)**

USE INSTRUCTIONS: This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. This product will control annual and perennial weeds, including quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and fed to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### **Spot treatment or Wiper applications (Alfalfa and Clover only)**

USE INSTRUCTIONS: This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### **Renovation**

USE INSTRUCTIONS: This product may be applied as a broadcast spray to existing stands of alfalfa, or clover, and other labeled forage legumes. Labeled crops may be planted into the treated area.

PRECAUTIONS, RESTRICTIONS: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **8.2 Asparagus**

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, postharvest

##### **Preplant, Preemergence**

USE INSTRUCTIONS: This product may be applied prior to emergence of asparagus.

PRECAUTIONS, RESTRICTIONS: Do not apply within a week before the first spears emerge.

##### **Spot treatment**

USE INSTRUCTIONS: This product may be applied immediately after cutting, but prior to the emergence of new spears.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

##### **Postharvest**

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

### **8.3 Cereal Crops**

**LABELED CROPS:** Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rice, Rye, Teosinte, Triticale, Wheat (All), Wild rice.

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment (except rice), post-harvest, preharvest (wheat only), wiper applicators (wheat only).

Do not treat rice fields or levees when the field contains flood water.

#### **Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

#### **Spot treatment (except rice)**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### **Postharvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.

#### **Preharvest (wheat only)**

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 1 quart of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

#### **Wiper applications (wheat only)**

**USE INSTRUCTIONS:** Wiper applications may be used in wheat. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop.

**PRECAUTIONS, RESTRICTIONS:** Allow at least 35 days between application and harvest. Do not use roller applicators.

### **8.4 Christmas Trees**

**TYPES OF APPLICATIONS:** Post-directed, spot treatment, site preparation

#### **Post-directed, Spot treatment**

**USE INSTRUCTIONS:** This product may be used as a post-directed spray and spot treatment around established Christmas trees.

**PRECAUTIONS, RESTRICTIONS:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

#### **Site preparation**

**USE INSTRUCTIONS:** This product may be used prior to planting Christmas trees.

**PRECAUTIONS, RESTRICTIONS:** Precautions should be taken to protect nontarget plants during site preparation applications.

### **8.5 Citrus Crops**

**LABELED CROPS:** Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, ~~Mandarin-Orange~~, Mandarin (tangerine), Orange (All), Pummelo, Tangelo, ~~Tangerine~~, Tangor

**TYPES OF APPLICATIONS:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

Florida and Texas only: For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar™ II or Karmex™ may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

S = Suppression  
PC = Partial control

B = Burndown  
C = Control

WEED SPECIES	ROUNDUP ULTRA RATE PER ACRE			
	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	—	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	—	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	—	PC	C

PRECAUTIONS, RESTRICTIONS: Allow a minimum of ~~14 days~~ 1 day between last application and harvest.

### 8.6 Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), site preparation, dormant, wiper

Rotating out of CRP, Site preparation

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production.

Dormant, Wiper

USE INSTRUCTIONS: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

PRECAUTIONS, RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

### 8.7 Corn

TYPES OF CORN: Field corn, seed corn, sweet corn and popcorn

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, post-harvest

#### Preplant, Preemergence and At-Planting

USE INSTRUCTIONS: This product may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as banyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass, and any perennial weeds. See the map in the Annual Weeds section of this label for areas included in this recommendation.

LASO®/ALACHLOR	LARIAT®	BULLET®
PARTNER®	MICRO-TECH®	DUAL™
BICEP™	ATRAZINE	CYANAZINE
SIMAZINE	PROWL™	
ATRAZINE	EXTRAZINE™	LOROX™
BANVEL	FRONTIER™	MARKSMAN™
BICEP™	GUARDSMAN™	MICRO-TECH®
BICEP II	HARNESS®	PARTNER®
BLADEX/CYANAZINE	HARNESS XTRA	PROWL™
BROADSTRIKE™	HARNESS XTRA 5.6L	SIMAZINE
BULLET®	LARIAT®	SURPASS™
DUAL™	LASO®/ALACHLOR	SURPASS 100
DUAL II	LINEX™	TOPNOTCH™

For improved burndown, this product may be tank mixed with 2,4-D or dicamba.

Annual weeds—For difficult-to-control weeds such as fall panicum, banyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

PRECAUTIONS, RESTRICTIONS: Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

The tank mix recommendations in this section are not registered in California.

#### Spot treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to silking of corn.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

## **Post-harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Do not harvest or feed treated vegetation for 8 weeks following application.

## **8.8 Cotton**

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest

### **Preplant, Preemergence, and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

### **Hooded sprayer, Selective equipment**

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### **Spot treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### **Preharvest**

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

and woody brush tables. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

This product may be tank mixed with DEF™ 6, Folex™, or Prep™ to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Do not feed or graze treated cotton forage or hay following preharvest applications. **DO NOT APPLY MORE THAN 1 QUART OF THIS PRODUCT PER ACRE BY AIR. Do not apply more than 2 quarts of this product per acre by ground.** Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur. ~~The use of additives for preharvest application to cotton is prohibited.~~

### 8.9 Fallow Systems

**TYPES OF APPLICATIONS:** Chemical fallow, preplant fallow beds, aid-to-tillage

#### Chemical fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

#### Preplant fallow beds

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the annual, perennial and woody brush tables.

In addition, 12 fluid ounces of this product plus ~~2 to 4~~ 2 to 3 oz of Goal™ 2XL per acre will control the following weeds with the maximum height or length indicated: 3" – common cheeseweed, chickweed, groundsel; 6" – London rocket, sheperdspurse.



16 fluid ounces of this product plus ~~2 to 4~~ 2 to 3 oz of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" — common cheeseweed, groundsel, mare's tail (*Conyza canadensis*), 12" — chickweed, London rocket, sheperdspurse.

#### **Aid-to-tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

#### **8.10 Grain Sorghum (Milo)**

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, post-harvest

##### **Preplant, Preemergence, At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

##### **Spot treatment and Wiper applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

##### **Post-harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Do not harvest or feed treated vegetation for 8 weeks following application.

### 8.11 Grass Seed Production

TYPES OF APPLICATIONS: Preplant, renovation, site preparation

USE INSTRUCTIONS: Applications may be made prior to planting or renovation of turf or forage grass areas grown for seed production. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

PRECAUTIONS, RESTRICTIONS: Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Do not feed or graze treated areas for 8 weeks following application.

### 8.12 Herbs

TYPES OF HERBS: Peppermint, spearmint

USE INSTRUCTIONS: This product may be used as a spot treatment in spearmint and peppermint. Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area.

PRECAUTIONS, RESTRICTIONS: Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30 day intervals. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason.

### 8.12, 8.13 Pastures

TYPES OF PASTURES: Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover

TYPES OF APPLICATIONS: Spot treatment, wiper application, preplant, preemergence, pasture renovation

#### Spot treatment and Wiper application

USE INSTRUCTIONS: This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### Preplant, Preemergence and Pasture renovation

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **8.43 8.14 Peanuts**

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting peanuts. Applications must be made prior to the emergence of the crop.

#### **8.44 8.15 Small Fruits and Berries**

**LABELED CROPS:** Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black, Red), Youngberry

**TYPES OF APPLICATIONS:** Preplant, preemergence, directed spray (except cranberry), wiper application

**USE INSTRUCTIONS:** This product may be applied as a preplant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

**PRECAUTIONS, RESTRICTIONS:** Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

#### **8.45 8.16 Soybeans**

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, preharvest, selective equipment, hooded sprayers

**Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

MICRO TECH	COMMAND™	DUAL
LISSOVALACHLOR	CANOPY™	LEXONE™
PARTNER	PURSUIT™	GEMINI™
LOROX PLUS™	PREVIEW™	PROWL
TURBO™	SCEPTER™	SENCOR™
SQUADRON™	PURSUIT PLUS™	LINURON

<u>CANOPY™</u>	<u>LISSO/ALACHLOR</u>	<u>PROWL</u>
<u>COMMAND™</u>	<u>LINEX</u>	<u>PURSUIT™</u>
<u>DUAL</u>	<u>LOROX/LINURON</u>	<u>PURSUIT PLUS</u>
<u>DUAL II</u>	<u>LOROX PLUS</u>	<u>SCEPTER™</u>
<u>FRONTIER</u>	<u>MICRO-TECH</u>	<u>SENCOR™/LEXONE™</u>
<u>FUSION™</u>	<u>PARTNER</u>	<u>SQUADRON™</u>
<u>GEMINI™</u>	<u>PREVIEW™</u>	<u>TURBO™</u>

For improved burndown, this product may be tank-mixed with 2,4-D or 2,4-DB. See the 2,4-D label for intervals between application and planting.

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** The tank mix recommendations in this section are not registered in California.

#### Spot treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial and woody brush tables. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

#### Selective equipment

USE INSTRUCTIONS: This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

PRECAUTIONS, RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

#### **8.16 8.17 Sugarcane**

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, fallow, hooded sprayers

##### **Preplant, Preemergence**

USE INSTRUCTIONS: This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

PRECAUTIONS, RESTRICTIONS: Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

##### **Spot treatment**

USE INSTRUCTIONS: This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

PRECAUTIONS, RESTRICTIONS: Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

##### **Fallow treatments**

USE INSTRUCTIONS: This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage.

##### **Hooded sprayers**

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of sugarcane. A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution.

Minimize the potential for spray particles to escape from under the hood by operating the sprayer at appropriate ground speeds, nozzle pressures and wind speeds. Operation on rough or sloping ground may result in spray particles escaping from the hood.

When applying to sugarcane that is grown on raised beds, ensure that the hood is designed to completely enclose the spray. If necessary, extend the front and rear flaps of the hoods to reach the ground in furrows between the rows.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

PRECAUTIONS, RESTRICTIONS: Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction.

#### **8.18 Sunflowers**

TYPES OF APPLICATIONS: Preplant, preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting sunflowers. Applications must be made prior to emergence of the crop.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre for sunflowers. Make only one preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

The use of this product for sunflowers is not registered in California.

#### **8.17-8.19 Tree and Vine Crops (General)**

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression

NOTE: THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL CITRUS CROPS, TREE FRUITS, TREE NUTS AND VINE CROPS. SEE THE INDIVIDUAL CROP SECTIONS FOR INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS.

This product may be applied in middles, strips and for general weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at rates given in the annual, perennial and woody brush tables. Apply at 1 pint to 5 quarts per acre. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

#### **Middles (between rows)**

USE INSTRUCTIONS: This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 16 to 32 oz/A of this product plus 4.3 to 16 oz/A of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (*Conyza bonariensis*), common groundsel, junglerice,

common lambsquarters, redroot pigweed, London rocket, common ryegrass, sheperdspurse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression). 12 to 32 oz/A of this product plus 4.3 to 16.12 oz/A of Goal 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

#### Strips (in rows)

USE INSTRUCTIONS: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products:

GOAL 1.6E	SIMAZINE	SURFLAN™ AS
KARMEX DF	PRINCEP™ CALIBER™ 90	SURFLAN 75W
KROVAR I	SIMAZINE 4L	SIMAZINE 80W
KROVAR II	SOLICAM™ 80 DF	

DEVIRINOL™ 50 DF	PRINCEP™ CALIBER™ 90
DIREX™ 4L	SIMAZINE 4L
GOAL 2XL	SIMAZINE 80W
KARMEX DF	SIM-TROL™ 4L
KROVAR I	SOLICAM™ DF
KROVAR II	SURFLAN™ AS
PROWL	SURFLAN 75W

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Apply 1 pint to 5 quarts of this product per acre in these tank mixtures. Use rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

#### Perennial grass suppression

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For bumdown of bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When bumdown is required prior to harvest, allow at least 21 days to ensure sufficient time for bumdown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

#### **Selective equipment**

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

**GENERAL PRECAUTIONS/RESTRICTIONS:** For all uses in this section.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES AND VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

**AVOID PAINTING CUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.**

#### **8.48 8.20 Tree Fruits**

**LABELED CROPS:** Apple, Apricot, Cherry (Sweet, Sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (All), Quince

**TYPES OF APPLICATIONS:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

#### **Restrictions on application equipment**

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a post-directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey,



North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 44 days 1 day between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

#### **8.19 8.21 Tree Nuts**

LABELED CROPS: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory nut, Macadamia, Pecan, Pistachio, Walnut (Black, English)

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of tree nuts, except pistachio nuts. For pistachio nuts allow a minimum of 21 days between last application and harvest.

#### **8.20 8.22 Tropical Crops**

LABELED CROPS: ~~Acerola~~, Atemoya, Avocado, Banana, ~~Barbados Cherry (acerola)~~, Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coconuts, Coffee, Dates, Figs, ~~Genip~~, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, ~~Marmaladebox (genip)~~, Papaya, Passion fruit, Persimmon, Pineapple, Plantain, Pomegranate, Sapodilla, Sapote (black, mamey, white), Soursop, Sugar apple, Tamarind, Tea.

USE INSTRUCTIONS: This product may be applied for general weed control or for site preparation prior to transplanting crops listed in this section. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

PRECAUTIONS/RESTRICTIONS: Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, ~~banana~~, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind, and tea.

Allow a minimum of 28 days between last application and harvest of plantain and coffee.

Allow a minimum of 1 day between last application and harvest of banana, guava and papaya.

Do not feed or graze treated pineapple forage following application.

#### **8.21 8.23 Vegetable Crops**

**LABELED CROPS:** Amaranth, Amugula, Artichoke (Jerusalem), Beans (All), Beet greens, ~~Red Beets~~, ~~Garden beets~~, Broccoli (All), Brussels sprouts, Cabbage (All), Cabbage (Chinese), Cantaloupe, ~~Cardoon~~, ~~Cavalo Broccolo~~, Carrot, Cauliflower, Casaba melon, Celery, ~~Celery (Chinese)~~, ~~Galeriac~~, ~~Celeriac~~, Celtuce, Chard (Swiss), ~~Chayote~~, Chervil, Chick peas, Chicory, Chrysanthemum, Collards, Corn salad, Crenshaw melon, Cress, Cucumber, Dandelion, Dock (sorrel), Eggplant, Endive, Fennel (florence), Garlic, ~~Garkin~~, ~~Gherkin~~, ~~Ginseng~~, Gourds, Ground cherry, Guar, Honeydew melon, Honey ball melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango melon, Melons (All), ~~Mizuna~~, Muskmelon, Mustard greens, Okra, Onion, ~~Oriental radish~~, Parsley, Parsnips, Peas (All), Pepinos, Pepper (All), Persian melon, Potato (Irish), Pumpkin, Purslane, Radish, Rape greens, Rhubarb, Rutabaga, Salsify, Shallot, Spinach (All), ~~Mustard Spinach~~, Squash (Summer, Winter), Sugar beets, Sweet potato, Tomatillo, Tomato, Turnip, Watercress, Watermelon, Yams.

**USE INSTRUCTIONS:** This product may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler system.

~~Use for direct seeded tomatoes only.~~

For the following crops, apply only prior to planting. Allow at least 3 days between application and planting of cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, garlic, gherkin, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), persian melon, pumpkin, squash (summer, winter), tomatillo, tomato, watercress, and watermelon.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

#### **8.22 8.24 Vine Crops**

**LABELED CROPS:** Grapes (~~raisin~~, ~~table~~, ~~wine~~), Kiwi fruit

**TYPES OF APPLICATIONS:** General weed control, middles (between rows), strips (in row), selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest.

## 9.0 Farmsteads

**TYPES OF APPLICATIONS:** General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management

### 9.1 General nonselective weed control, Trim-and-edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Banvel  
Diuron  
Princep Caliber 90  
Simazine  
Simazine 4L

Simazine 80W  
Surflan 75W  
Surflan AS  
2,4-D

Banvel and 2,4-D mixtures may not be applied by air in California

### 9.2 Chemical mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### 9.3 Cut Stumps

**TYPES OF APPLICATION:** Treating cut stumps in any noncrop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface

immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

Alder  
Eucalyptus  
Madrone  
Oak  
Reed, giant

Salt-cedar  
Sweetgum  
Tan oak  
Willow

**PRECAUTIONS, RESTRICTIONS:** DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT WOODY BRUSH OR TREES.

#### 9.4 Habitat Management

**TYPES OF USES:** Habitat restoration and maintenance, wildlife food plots

##### **Habitat restoration and maintenance**

**USE INSTRUCTIONS:** This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance.

##### **Wildlife food plots**

**USE INSTRUCTIONS:** This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

#### 10.0 ANNUAL WEEDS RATE TABLES ALPHABETICALLY BY SPECIES

Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended.

Apply to actively growing annual weeds.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

For those rates less than 32\_48 fluid ounces per acre, this product may be used up to 32\_48 fluid ounces per acre where heavy weed densities exist.

Refer to this map for location of the regions listed in the annual weed tables below.

**INSERT MAP WITH STATE OUTLINES AND  
LINES DIVIDING WEST, NORTH AND SOUTH**

**ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS**

WEED SPECIES	REGION	RATE (FLUID OUNCES PER ACRE)					
		12	16	24	32	40	48
		MAXIMUM HEIGHT/LENGTH					
Annoda, spurred		-	1"	2"	3"	5"	8"
Barley		-	18"	18"+	-	-	-
Barnyardgrass	South	-	3"	5"	7"	9"	12"
	North	-	6"	8"	12"	-	-
	North	-	-	6"	12"	-	-
Bittercress		-	12"	20"	-	-	-
Black nightshade		-	6"	12"	-	-	-
Bluegrass, annual		-	10"	-	-	-	-
Brassica, fivehook		-	-	-	6"	-	-
Brome, downy		6"	-	-	-	-	-
Brome, Japanese		-	6"	-	24"	-	-
Browntop panicum		-	6"	8"	12"	-	24"
Burcucumber		-	-	6"	12"	-	-
Buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"
Carpetweed		-	-	6"	12"	-	-

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Cheat	-	6"	20"	-	-	-
Chervil	-	20"	-	-	-	-
Chickweed	-	12"	18"	-	-	-
Cocklebur	-	12"	18"	24"	-	-
Copperleaf, hophornbeam	-	1"	2"	3"	4"	6"
Copperleaf, Virginia	-	1"	2"	3"	4"	6"
Corn	-	12"	20"	-	-	-
Corn speedwell	-	12"	-	-	-	-
Crabgrass	-	12"	18"	-	-	-
<u>Cutleaf evening primrose</u>	-	-	-	3"	-	6"
Dwarf dandelion	-	20"	-	-	-	-
Eastern mannagrass	-	8"	12"	-	-	-
Eclipta	-	4"	8"	12"	-	-
Fall panicum	South	4"	6"	8"	12"	24"
	North	6"	12"	18"	-	-
Falsedandelion	-	20"	-	-	-	-
Falseflax, smallseed	-	12"	-	-	-	-
Fiddleneck				6"		12"
Field pennycress	-	6"	12"	-	-	-
Filaree	-	-	-	-	-	12"
Fleabane, annual	-	6"	20"	-	-	-
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	6"	-	-	-	-
Fleabane, rough	-	3"	6"	12"	-	-
Florida pusley	-	-	-	12"	-	-
Foxtail	South	8"	12"	20"	-	-
	North	18"	18"+	-	-	-
Goatgrass, jointed	-	6"	-	-	-	-

Goosegrass		-	3"	5"	8"	-	18"
Grain sorghum (milo)		-	6"	12"	20"	-	-
Groundsel, common		-	6"	-	-	-	-
Hemp sesbania		-	-	2"	4"	6"	8"
Henbit		-	-	-	6"	-	20"
Horseweed/ Marestail ( <i>Conyza</i> <i>canadensis</i> )	South	-	-	12"	30"	-	-
	North	-	6"	12"	18"	-	-
Itchgrass		-	6"	12"	18"	-	-
<u>Jimsonweed</u>		-	-	-	6"	-	12"
Johnsongrass, seedling	South	-	-	18"	-	-	-
	North	-	12"	18"	-	-	-
Junglerice		-	3"	5"	7"	9"	12"
Knotweed		-	3"	8"	12"	-	20"
Kochia <sup>1</sup>		-	3 to 6"	12"	-	-	-
Lambsquarters		-	6"	8"	12"	-	20"
Little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
Mayweed		-	-	2"	6"	12"	18"
Morningglory ( <i>Ipomoea</i> spp.)		-	-	2"	4"	-	6"
Mustard, blue		6"	-	-	-	-	-
Mustard, tansy		6"	12"	20"	-	-	-
Mustard, tumble		6"	-	-	-	-	-
Mustard, wild		6"	12"	18"	-	-	-
<u>Nightshade, black</u>		-	6"	12"	-	-	-
<u>Nightshade, hairy</u>		-	6"	12"	-	-	-
Oats		-	-	6"	20"	-	-
Pigweed		-	12"	18"	24"	-	-

Plains/Tickseed coreopsis		-	5"	12"	18"	-	-
Prickly lettuce		-	6"	12"	20"	-	-
<u>Purslane</u>		-	-	-	6"	-	12"
Ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
Ragweed, giant		-	-	4"	6"	-	11"
Red rice		-	-	-	4"	-	-
Russian thistle		-	-	-	6"	-	-
Rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"+	-	-	-
Ryegrass		-	-	-	6"	-	7+"
Sandbur, field		12"	-	-	-	-	-
Shattercane		-	12"	18"	-	-	-
Sheperdspurse		-	6"	12"	-	-	-
Sicklepod		-	-	2"	4"	-	8"
Signalgrass, broadleaf		-	3"	5"	7"	9"	12"
Smartweed, ladythumb		-	4"	6"	8"	-	12"
Smartweed, Pennsylvania		-	4"	6"	8"	-	12"
Sowthistle, annual		-	-	-	6"	-	12"
Spanishneedles		-	-	-	8"	-	18"
Speedwell, purslane		-	12"	-	-	-	-
Sprangletop		-	6"	12"	20"	-	-
Spurge, prostrate		-	6"	12"	20"	-	-
Spurge, spotted		-	6"	12"	20"	-	-
Spurry, umbrella		6"	-	-	-	-	-
Stinkgrass		12"	-	-	-	-	-
Sunflower		-	12"	18"	-	-	-



Teaweed/ Prickly sida		-	1"	2"	3"	4"	6"
Texas panicum		-	6"	8"	12"	-	24"
Velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18	-	-	-	-
Waterhemp		-	-	6"	12"	-	-
Wheat	South	-	6"	30"	-	-	-
	North	-	18"	18"+	-	-	-
Wheat, (overwintered)		-	6"	18"	-	-	-
Wild oats		-	12"	-	-	-	-
Witchgrass		-	12"	-	-	-	-
Woolly cupgrass		-	6"	12"	-	-	-
Yellow rocket		-	-	12"	20"	-	-

1 Do not treat kochia in the button stage.

#### ANNUAL WEEDS RATE TABLE, WEST REGION

WEED SPECIES	12	RATE (FLUID OUNCES PER ACRE)			48
		16	24	32	
		MAXIMUM HEIGHT/LENGTH			
Barley	12"	-	-	-	-
Barnyardgrass	6"	-	-	-	-
Bluegrass, annual	6"	-	-	-	-
Bluegrass, bulbous	-	6"	-	-	-
Brome, downy 1	6"	-	-	-	-
Buttercup	-	12"	-	-	-
Cheat	-	6"	-	-	-
Chickweed	-	6"	-	-	-

Cocklebur	-	12"	-	-	-
Corn	-	6"	-	-	-
Crabgrass	-	12"	-	-	-
Dwarf dandelion	-	12"	-	-	-
Fall panicum	-	12"	-	-	-
Falseflax, smallseed	-	12"	-	-	-
Field pennycress	-	6"	-	-	-
Filaree	-	-	-	-	12"
Fleabane, hairy ( <i>Conyza bonariensis</i> )	-	6"	-	-	-
Florida pusley	-	-	-	12"	-
Foxtail	(8 fl. oz. for up to 12")				
Goatgrass, jointed	-	6"	-	-	-
Groundsel, common	-	6"	-	-	-
Henbit	-	6"	-	-	-
Horseweed/Marestail ( <i>Conyza canadensis</i> )	-	6"	-	-	-
Johnsongrass, seedling	-	12"	-	-	-
Lambsquarters	-	6"	-	-	-
London rocket	-	6"	-	-	-
Momingglory ( <i>Ipomoea spp.</i> )	-	2"	-	-	-
Mustard, blue	8"	-	-	-	-
Mustard, tansy	6"	-	-	-	-
Mustard, tumble	6"	-	-	-	-
Mustard, wild	6"	-	-	-	-
Pigweed	-	12"	-	-	-
Rye	12"	-	-	-	-
Ryegrass, Italian	-	6"	-	-	-

Sandbur, field	12"	-	-	-	-
Shattercane	12"	-	-	-	-
Sheperdspurse	-	6"	-	-	-
Sowthistle, annual	-	6"	-	-	-
Spurge, annual	-	6"	-	-	-
Stinkgrass	12"	-	-	-	-
Texas panicum	-	12"	-	-	-
Wheat	18"	-	-	-	-
Wild oats	-	12"	-	-	-
Witchgrass	-	12"	-	-	-

1 For control of Downy brome in no-till systems, use 16 fluid ounces per acre.

#### **10.1 Annual Weeds—10 to 40 Gallons Per Acre in Water Carrier Volumes of 10 to 40 Gallons per Acre**

Apply 1 to 1.5 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications.

#### **10.2 Annual Weeds – Tank Mixtures with 2,4-D or Banvel**

12 to 16 fluid ounces of this product plus 0.25 pounds a.i. of Banvel or 0.5 pounds a.i. of 2,4-D per acre will control the following weeds with the maximum height or length indicated: 6" – prickly lettuce, maretail/horseweed (*Conyza canadensis*), morningglory (*Ipomoea spp.*), kochia (Banvel only); 12" – cocklebur, lambsquarters, pigweed, Russian thistle.

16 fluid ounces of this product plus 0.5 pounds a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

12 fluid ounces of this product plus 0.25 pounds a.i. of Banvel or 0.5 pounds a.i. of 2,4-D per acre will control foxtail up to 18".

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

**DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.**

# **11.0 PERENNIAL WEEDS RATE TABLE** **ALPHABETICALLY BY SPECIES**

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

## **Spray Solution**

Desired Volume	Amount of Roundup Ultra					
	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	2/3 oz	1-1/3 oz	2 oz	2-2/3 oz	6-1/2 oz	13 oz
25 Gal	1 pt	1 qt	1-1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1-1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Alfalfa	1	3-10	2%	Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.
Alligatorweed	4	3-20	1.5%	Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.
Anise (fennel)	—	—	1-2%	Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.
Bahiagrass	3-5	3-20	2%	Apply when most plants have reached the early head stage.

Bentgrass	1.5	10-20	2%	For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.
Bermudagrass	3-5	3-20	2%	For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.
Bermudagrass, water (knotgrass)	1-1.5	5-10	2%	<p>Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.</p> <p>Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.</p> <p>This product is not registered in California for use on water bermudagrass.</p>
Bindweed, field	0.5-5	3-20	2%	<p>Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.</p> <p>For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.</p> <p>Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. Do not apply by air.</p> <p>For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.</p> <p>For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water</p>

per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Blueweed, Texas	3-5	3-40	2%	Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.
Brackenfern	3-4	3-40	1-1.5%	Apply to fully expanded fronds which are at least 18 inches long.
Bromegrass, smooth	1-2	3-40	2%	Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.
Bursage, woolly-leaf	—	3-20	2%	For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Apply when plants are producing new active growth which has been

initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Cattail	3-5	3-40	2%	Apply when most plants have reached the early head stage.
Clover, red, white	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Cogongrass	3-5	10-40	2%	Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.
Dallisgrass	3-5	3-20	2%	Apply when most plants have reached the early head stage.
Dandelion	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth.  Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.
Dock, curly	3-5	3-40	2%	Apply when most plants have reached the early bud stage of growth.  Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.
Dogbane, hemp	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.  For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.
Fescue (except tall)	3-5	3-20	2%	Apply when most plants have reached the early head stage.

Fescue, tall	1-3	3-40	2%	<p>Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development.</p> <p>Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.</p>
Guineagrass	3	3-40	1%	<p>Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.</p>
Horsenettle	3-5	3-20	2%	<p>Apply when most plants have reached the early bud stage.</p>
Horseradish	4	3-40	2%	<p>Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.</p>
Iceplant	--	--	1.5-2%	<p>Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.</p>
Jerusalem artichoke	3-5	3-20	2%	<p>Apply when most plants are in the early bud stage.</p>
Johnsongrass	0.5-3	3-40	1%	<p>In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.</p> <p>For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1 quart per acre rate.</p> <p>For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.</p> <p>Spot treatment (partial control or suppression)--Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.</p>



Kikuyugrass	2-3	3-40	2%	Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth). Allow 3 or more days after application before tillage.
Knapweed	4	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.
Lantana	—	—	1-1.25%	Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.
Lespedeza	3-5	3-20	2%	Apply when most plants have reached the early bud stage.
Milkweed, common	3	3-40	2%	Apply when most plants have reached the late bud to flower stage of growth.
Muhly, wirestem	1-2	3-40	2%	Use 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.
Mullein, common	3-5	3-20	2%	Apply when most plants are in the early bud stage.
Napierrgrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Nightshade, silverleaf	2	3-10	2%	Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.
Nutsedge; purple, yellow	0.5-3	3-40	1-2%	<p>Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.</p> <p>Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 8 inches tall). Repeat this application, as necessary, when newly</p>

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emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	1-2	3-40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	--	--	1.5-2%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Paragrass	3-5	3-20	2%
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Apply when most plants are in the early head stage.

Phragmites	3-5	10-40	1-2%
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For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Poison hemlock	--	--	1-2%
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Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Quackgrass	1-3	3-40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product. Do not tank mix with residual herbicides when using the 1 quart

rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Redvine	0.75-2	5-10	2%
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For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Reed, giant	—	—	2%
-------------	---	---	----

Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	1-3	3-40	1%
------------------------	-----	------	----

In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

Smartweed, swamp	3-5	3-40	2%
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Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Spurge, leafy	—	3-10	2%
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For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	2	10-40	2%	Best results are obtained when applications are made during the rosette, bolting and early flower stages.
Sweet potato, wild	—	—	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, artichoke	—	—	2%	Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.
Thistle, Canada	2-3	3-40	2%	Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.  For suppression, apply 1 quart of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.
Timothy	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.
Torpedograss	4-5	3-40	2%	For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.
Trumpetcreeper	2	5-10	2%	Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.
Vaseygrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Velvetgrass	3-5	3-20	2%	Apply when most plants are in the early head stage.
Wheatgrass, western	2-3	3-40	2%	For best results, apply when most plants have reached the boot-to-head stage of growth.

## 12.0 WOODY BRUSH AND TREES RATE TABLE ALPHABETICALLY BY SPECIES

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Rate (QT/A)	Water Volume	Hand-Held % Solution	Comments
Alder	3-4	3-40	1-1.5%	For control
Ash	2-5	3-40	1-2%	Partial control
Aspen, quaking	2-3	3-40	1-1.5%	For control
Bearmat (Bearclover)	2-5	3-40	1-2%	Partial control
Beech	2-5	3-40	1-2%	Partial control
Birch	2	3-40	1%	For control
Blackberry	3-4	10-40	1-1.5%	For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.
Blackgum	2-5	3-40	1-2%	For control
Bracken	2-5	3-40	1-2%	For control

Broom; French, Scotch	—	—	1.5-2%	For control
Buckwheat, California	—	—	1-2%	For partial control. Thorough coverage of foliage is necessary for best results.
Cascara	2-5	3-40	1-2%	Partial control
Catsclaw	—	—	1-1.5%	Partial control
Ceanothus	2-5	3-40	1-2%	Partial control
Chamise	—	—	1%	For control. Thorough coverage of foliage is necessary for best results.
Cherry; bitter, black, pin	2-3	3-40	1-1.5%	For control
Coyote brush	—	—	1.5-2%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Dogwood	2-5	3-40	1-2%	Partial control
Elderberry	2	3-40	1%	For control
Elm	2-5	3-40	1-2%	Partial control
Eucalyptus	—	—	2%	For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.
Florida holly (Brazilian Peppertree)	2-5	3-40	1-2%	Partial control
Gorse	2-5	3-40	1-2%	Partial control
Hasardia	—	—	1-2%	Partial control. Thorough coverage of foliage is necessary for best results.
Hawthorn	2-3	3-40	1-1.5%	For control
Hazel	2	3-40	1%	For control
Hickory	2-5	3-40	1-2%	Partial control
Honeysuckle	3-4	3-40	1-1.5%	For control
Hombeam, American	2-5	3-40	1-2%	Partial control

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Kudzu	4	3-40	2%	For control. Repeat applications may be required to maintain control.
Locust, black	2-4	3-40	1-2%	Partial control
Madrone resprouts	—	—	2%	Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.
Manzanita	2-5	3-40	1-2%	Partial control
Maple, red	2-4	3-40	1-1.5%	For control, apply a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.
Maple, sugar	—	—	1-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed.
Monkey flower	—	—	1-2%	Partial control. Thorough coverage of foliage is necessary for best results.
Oak; black, white	2-4	3-40	1-2%	Partial control
Oak, post	3-4	3-40	1-1.5%	For control
Oak; northern, pin	—	—	1-1.5%	For control. Apply when at least 50 percent of the new leaves are fully developed
Oak; southern red	2-3	3-40	1-1.5%	For control
Persimmon	2-5	3-40	1-2%	Partial control
Pine	2-5	3-40	1-2%	For control
Poison ivy/ Poison oak	4-5	3-40	2%	For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.
Poplar, yellow	2-5	3-40	1-2%	Partial control
Redbud, eastern	2-5	3-40	1-2%	For control
Rose, multiflora	2	3-40	1%	For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.
Russian olive	2-5	3-40	1-2%	Partial control

Sage, black	—	—	1%	For control. Thorough coverage of foliage is necessary for best results.
Sage, white	2-5	3-40	1-2%	Partial control
Sage brush, California	—	—	1%	For control. Thorough coverage of foliage is necessary for best results.
Salmonberry	2	3-40	1%	For control
Salt-cedar	2-5	3-40	1-2%	For control
Sassafras	2-5	3-40	1-2%	Partial control
Sourwood	2-5	3-40	1-2%	Partial control
Sumac; poison, smooth, winged	2-4	3-40	1-2%	Partial control
Sweetgum	2-3	3-40	1-1.5%	For control
Swordfern	2-5	3-40	1-2%	Partial control
Tallowtree, Chinese	—	—	1%	For control. Thorough coverage of foliage is necessary for best results.
Tan oak resprouts	—	—	2%	For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.
Thimbleberry	2	3-40	1%	For control
Tobacco, tree	—	—	1-2%	Partial control
Trumpet creeper	2-3	3-40	1-1.5%	For control
Vine maple	2-5	3-40	1-2%	Partial control
Virginia creeper	2-5	3-40	1-2%	For control
Waxmyrtle, southern	2-5	3-40	1-2%	Partial control
Willow	3	3-40	1%	For control

### 13.0 LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR

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PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

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This product is protected by  
U.S. Patent No. 4,405,531.  
Other patents pending.  
No license granted under any  
non-U.S. patent(s).

EPA Reg. No. 524-475  
21093S1-4

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In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI, 63167 U.S.A.

SUBMISSION REVIEW RECORD			REGISTRATION NUMBER		DATE RECEIVED	
1. IS PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO			2. PETITION NO. 15241-114751		3. RECEIVED BY TEAM NO DAY YR 02 10 97	
5. METHOD OF SUPPORT <input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 1C			7. PRODUCT MANAGER		8. PROJECTED RETURN NO DAY YR	
9. DATE FILED 2/27/97		10. DATE PUBLISHED		11. ACTION TYPE add several crops desired on grouping and attachments		
12. DATE REVIEW COMPLETED NO DAY YR		13. OUTGOING DATE NO DAY YR				
NO	REVIEW TYPE	REVIEWER CODE (initials)	SIGNATURE OF REVIEWER	COM. VENT CODE	DATE REVIEW COMPLETED NO DAY YR	
A	REVIEWABILITY TEAM					
B	PRODUCT MANAGER TEAM EFFICACY REVIEW					
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW					
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW					
E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW					
F	PRODUCT MANAGER		310			
G	INTERAGENCY REFERRAL					
H	COST-BENEFIT REVIEW					
I	PUBLIC COMMENTS REVIEW					
J	SEE BRANCH INSECTICIDE EFFICACY					
K	SEE BRANCH HERBICIDE EFFICACY					
L	SEE BRANCH FUNGICIDE EFFICACY					
M	SEE BRANCH RODENTICIDE EFFICACY					
N	SEE BRANCH DISINFESTANT EFFICACY					
O	CHEMISTRY BRANCH RESIDUE CHEMISTRY					
P	SEE BRANCH ENVIRONMENTAL CHEMISTRY					
Q	TOXICOLOGY BRANCH HUMAN SAFETY					
R	SEE BRANCH ENVIRONMENTAL SAFETY					
S						
T						
PRODUCT MANAGER SIGNATURE			TYPE OF RESPONSE			CODE

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

252212

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II -

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

\*Submission of amended label booklet

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
Certification must be submitted				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Feb. 6, 1997	



United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

Applicants Name and Address

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

EPA File Symbol/Registration Number

524-475

Product Name

Roundup® Ultra Herbicide

Date of Application

February 6, 1997

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
    - ☒ I am the original submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
    - a. ☒ I am the original data submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
      - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
      - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

*Sheila A. Schuette*

Name and Title

Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs

Date

Feb 6, 1997

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

February 6, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Acting Product Manager 25

Subject: **Roundup® ULTRA Herbicide (EPA Reg. No. 524-475)**  
**Submission of Amended Label Booklet**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of an amended label booklet for Roundup Ultra herbicide. In addition to minor typographical and grammatical corrections, the following changes have been made to the amended label:

- We have added a statement to the label that the President's Green Chemistry Award was presented to Monsanto in 1996 for our innovative "zero-waste" process in the manufacture of Roundup herbicide. This award was presented to Monsanto on July 11, 1996 by Vice President Al Gore. ✓
- In the "General Information" section on page 6, we have added a statement clarifying that ammonium sulfate may be added to the product and refer the user to the "Mixing" section for instructions. ✓
- In the "General Information" section on page 7, we have included information on glyphosate's modes of action, soil activity, biological degradation, volatility and toxicology testing. ✓

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- On page 8, we have modified the statement concerning conditions favoring drift and no longer specify an exact wind speed of 5 miles per hour.
- In Section 6.1 on mixing instructions, page 8, we have modified the instructions to avoid back-siphoning. We have also included a statement that state and local regulations should be followed. This change was requested by the Minnesota Department of Agriculture.
- In the section on Ammonium Sulfate (Section 6.4, page 10), we note that the liquid formulation may be used. The statement in the note had been changed to that requested by the Agency in your letter of April 22, 1996 in previously printed booklets; we include it here for completeness.
- We have added a new section providing direction for use of drift control additives, page 10.
- In Section 8.1, page 14, we have added a number of other forage legumes to the alfalfa and clover section since a group tolerance for glyphosate on forage legumes has been established at 0.4 ppm. This tolerance covers preplant/preemergent, at-planting and renovation applications, but does not cover preharvest, spot treatment or wiper applications. In that same section we have added the preharvest alfalfa use, which was approved by the Agency on March 25, 1996.
- In the Citrus section on page 17 we have updated the names of several of the citrus fruits. Also, on page 18, we have changed the preharvest interval for citrus to 1 day. This change was approved by the Agency on March 25, 1996.
- In the Corn section, page 19, we have added seed corn to the list of types of corn to which applications are allowed. We have also increased the number of recommended tank mix products.
- In the Cotton section on page 21 we have included the statement limiting preharvest applications to 2 quarts/acre. This change was requested by the Agency on February 21, 1996. In the same section we have deleted the restriction regarding use of additives since addition of surfactants and other additives is not allowed with this product (page 6).
- On page 21, in the Fallow Systems section, we have adjusted the use rates for the new Goal 2XL formulation.
- On page 23, we have added a new section on Herbs, which allows spot treatment applications in peppermint and spearmint. This use was approved by the Agency on August 30, 1995 (60 FR 45062) based on a petition submitted by IR-4.

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- ✓ In the Soybean section, pages 24-25, we have added several recommended tank mix products and listed them in alphabetical order.
- ✓ On page 26, we have added use of hooded sprayers to the Sugarcane section. This use was approved by the Agency on November 7, 1995.
- ✓ On page 27 we have added a new section on Sunflowers. Preplant and preemergent uses on sunflowers were approved on March 25, 1996.
- ✓ In the Tree and Vine Crops section on page 27 we have listed the recommended application rates; added a statement to allow a minimum of 3 days between application and transplanting, adjusted the use rates for the new Goal 2XL formulation, and added several new tank mix recommendations.
- ✓ In the Tree Fruits Section on page 30 we have changed the preharvest interval on pome fruits to 1 day. This change was approved by the Agency on April 26, 1995 for Roundup herbicide (EPA Reg. No. 524-445).
- In the Tropical Crops section on page 30 we have updated the names of acerola and genip and reduced the preharvest interval on bananas from 14 days to 1 day. ✓ This change was approved by the Agency on April 1, 1996.
- ✓ In the Vegetable Crop section on page 31 we have added various minor vegetable crops for which group tolerances have been established. We have also deleted the restriction that applications made be made only prior to planting direct-seeded tomatoes; applications may now be made prior to transplanting tomatoes.
- ✓ On page 30 in the Vine Crops section we have specified the types of grapes as raisin, table and wine.
- In the Annual Weeds Rate Tables, page 34, we have added a statement that applications should be made to actively growing annual weeds. We have also amended the label to allow use rates up to 48 fluid ounces per acre where heavy weed densities exist. ✓ On pages 34-38 of this table we have made adjustments in the weed heights and added several weed species including burcucumber, carpet weed, cutleaf evening primrose, jimsonweed, hairy nightshade, purslane and waterhemp. We have changed "black nightshade" to "nightshade, black".
- ✓ In the Perennial Weeds Rate Tables, page 41, we have added a statement that applications should be made to actively growing perennial weeds.
- The list of trademarks, pages 54-55, has been updated.

Monsanto requests that the Agency approve and stamp the enclosed label. A list of data supporting the uses on the this amended label can be found in MRID 43712700,

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Roundup® Ultra Label Booklet  
February 6, 1997  
Page 4

which was submitted to the Agency on June 29, 1995. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
L.L. Gingerich  
D.M. Fee-White

204

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR -4 1997

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Aerial Application In Arkansas)  
EPA Registration No. 524-475  
Your Letter Dated February 13, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

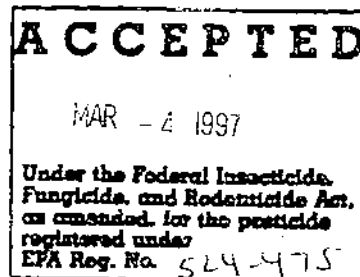
Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	2505C						
SURNAME	V. Errico						
DATE	3/3/97						

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.



EPA Reg. No. 524-475

® Roundup is a registered trademark of Monsanto Company.

### FOR AERIAL APPLICATION IN ARKANSAS ONLY

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

#### USE DIRECTIONS

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO

ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases, reducing this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing air flow on rotary winged aircraft. Avoid the use of nozzles with wide angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997.  
MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167.  
21137V1-5

2/12/97

206

SUBMISSION REVIEW RECORD				REGISTRATION NUMBER		CYCLE		DATE RECEIVED	
1. IS A PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO				2. PETITION NO.		3. RECEIVED BY TEAM NO DAY YR		012 118 917	
6. METHOD OF SUPPORT <input type="checkbox"/> 1A <input type="checkbox"/> 2B <input type="checkbox"/> 3C				7. PRODUCT MANAGER		8. PROJECTED RETURN NO DAY YR			
9. DATE FILED 2/24/97		10. DATE PUBLISHED		11. ACTION TYPE Aerial Application in Arkansas 300		12. OUTGOING DATE NO DAY YR			
NO.	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER	COM. COMMENT CODE	DATE REVIEW COMPLETED NO DAY YR				
A	REVIEWABILITY TEAM								
B	PRODUCT MANAGER TEAM EFFICACY REVIEW								
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW								
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW								
E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW								
F	PRODUCT MANAGER		UICW NAC		012	214	917		
G	INTERAGENCY REFERRAL								
H	COST-BENEFIT REVIEW								
I	PUBLIC COMMENTS REVIEW								
J	SEE BRANCH INSECTICIDE EFFICACY								
K	SEE BRANCH HERBICIDE EFFICACY								
L	SEE BRANCH FUNGICIDE EFFICACY								
M	SEE BRANCH RODENTICIDE EFFICACY								
N	SEE BRANCH DISINFESTANT EFFICACY								
O	CHEMISTRY BRANCH RESIDUE CHEMISTRY								
P	SEE BRANCH ENVIRONMENTAL CHEMISTRY								
Q	TOXICOLOGY BRANCH HUMAN SAFETY								
R	SEE BRANCH ENVIRONMENTAL SAFETY								
S									
T									
PRODUCT MANAGER SIGNATURE			TYPE OF RESPONSE			CODE			

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

February 13, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**For Aerial Application in Arkansas Only**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label provides additional directions for aerial applications and was requested by the Arkansas Department of Agriculture. Monsanto notified the Agency of this label on February 11, 1997. This label will be distributed by the Department of Agriculture to certified aerial applicators in Arkansas only.

Enclosed are five (5) copies of the label (version 21137V1-5).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

252214

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental label: For aerial application in Arkansas Only

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product		
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	7. EPA File Copy (original) 8. Yellow - Applicant Copy
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Feb. 13, 1997	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A:** Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." - Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "no-tox," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR - 4 1997

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Revised CSF)  
EPA Registration No. 524-475  
Your Letter Dated January 2, 1997

The scientific review and evaluation of the revised confidential statements of formula have been completed. The requested CSF's are acceptable and our records have been modified accordingly.

Sincerely,

Philip V. Errico  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	Vk Walker						
DATE	3/3/97						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO 1986-159-310



SUBMISSION REVIEW RECORD		REGISTRATION NUMBER		CYCLE 2		DATE RECEIVED	
3. IS A PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO		4. PETITION NO.		5. RECEIVED BY TEAM NO DAY YR		6. PROJECTED RETURN NO DAY YR	
8. METHOD OF SUPPORT <input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 1C		7. PRODUCT MANAGER		NO.		12. OUTGOING DATE NO DAY YR	
9. DATE FILED 2/19/97		10. DATE PUBLISHED		11. ACTION TYPE Pure CS Fencible additional surfactant for Crisis Contaminator 345		CODE	
13. REVIEW TYPE A REVIEWABILITY TEAM B PRODUCT MANAGER TEAM EFFICACY REVIEW C PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW D PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW E PRODUCT MANAGER TEAM RESUBMISSION REVIEW F PRODUCT MANAGER G INTERAGENCY REFERRAL H COST-BENEFIT REVIEW I PUBLIC COMMENTS REVIEW J EEE BRANCH INSECTICIDE EFFICACY K EEE BRANCH HERBICIDE EFFICACY L EEE BRANCH FUNGICIDE EFFICACY M EEE BRANCH RODENTICIDE EFFICACY N EEE BRANCH DISINFECTANT EFFICACY O CHEMISTRY BRANCH RESIDUE CHEMISTRY P EEE BRANCH ENVIRONMENTAL CHEMISTRY Q TOXICOLOGY BRANCH HUMAN SAFETY R EEE BRANCH ENVIRONMENTAL SAFETY S T		REVIEWER CODE (Initials)		SIGNATURE OF REVIEWER		COM. MENT CODE	
DATE REVIEW COMPLETED NO DAY YR							
PRODUCT MANAGER SIGNATURE		TYPE OF RESPONSE		CODE			

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

246960

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of revised Confidential Statement of Formula

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
- Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.				6. Date Application Received (Stamped) 2/3	
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs			
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Jan. 2, 1997			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1. Self-explanatory.
2. EPA Use Only.

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

January 2, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Revised Confidential Statements of Formula**

Dear Sir:

Enclosed for Agency review and approval are two (2) revised Confidential Statements of Formula (CSF) for Roundup Ultra herbicide (EPA Reg. No. 524-475). One CSF is for the basic formulation and the other is for the alternate formulation, MON 77360. These CSFs were most recently approved on November 7, 1995 (basic) and June 19, 1996 (alternate).

Because these formulations are produced in the same equipment other glyphosate formulations, both the of CSFs already contain a cross-contamination certified limit of [REDACTED]. At this time, we would like to extend this cross-contamination limit to also include [REDACTED], which is the surfactant in Roundup RT herbicide (EPA Reg. No. 524-454).

Once approved, these revised CSFs will supersede all previous versions of the CSF for all brand names under this registration.

INERT INGREDIENT INFORMATION IS NOT INCLUDED

INERT INGREDIENT INFORMATION IS NOT INCLUDED

TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468

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Roundup Ultra CSFs  
January 2, 1997  
Page 2

If you have any questions regarding this submission, please contact Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
D.E. Wolfersberger  
T.L. Vacek  
R.M. Weppleman (PSC)

2/6

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

January 2, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Use in Small Grain Cropping Systems in South Dakota**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra RT herbicide for your files. This label, which allows use of this product in small grain cropping systems, was approved by the Agency on December 11, 1996. This label will be distributed in South Dakota only.

Enclosed are five (5) copies of the label (version 21138U1-13).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
246959

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 12/11/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental label: Use in small grain cropping systems in South Dakota

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product		
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)  218
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Jan. 2, 1997		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

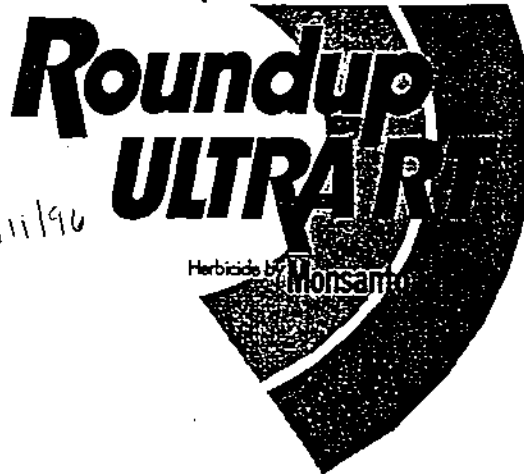
- 1-5. Self-explanatory.
  6. EPA Use Only.
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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



NOT REVIEWED  
In Accordance with FR Notice 88-4  
Based on Draft Labeling Dated 12/11/90

EPA Reg. No. 524-475

®Roundup is a registered trademark  
of Monsanto Company.

FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA.  
FOR NONSELECTIVE CONTROL OF LISTED ANNUAL WEEDS  
IN SMALL GRAIN CROPPING SYSTEMS.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the

label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

Refer to the Roundup Ultra RT label for rate recommendations and weeds controlled.

For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PRE-

#### VENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

January 2, 1997

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Philip V. Errico  
Product Manager 25 (Acting)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Use in Small Grain Cropping Systems in South Dakota**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows use of this product in small grain cropping systems, was approved by the Agency on December 11, 1996. This label will be distributed in South Dakota only.

Enclosed are five (5) copies of the label (version 21137U1-40).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
246958

### Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Philip V. Errico	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 12/11/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Use in small grain cropping systems in South Dakota

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
					Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped) 
2. Signature 	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Jan. 2, 1997	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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1. Certification with Respect to Citation of Data (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on x 11 inch paper for submission.

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**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment); for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



2100 NOV 19 1996  
In Accordance with FR Notice 98-02  
Based on Draft Labeling Dated 12/11/96

EPA Reg. No. 524-475

®Roundup is a registered trademark  
of Monsanto Company.

FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA.  
FOR NONSELECTIVE CONTROL OF LISTED ANNUAL WEEDS  
IN SMALL GRAIN CROPPING SYSTEMS.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the

label booklet for Roundup® Ultra herbicide for essential product performance information.

#### RECOMMENDATIONS

Refer to the Roundup Ultra label for rate recommendations and weeds controlled.

For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

#### ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PRE-

#### VENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid

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c c c c c

combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**NOTE**

- To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.
  - Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets.
  - In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.
  - Ensure uniform application. Use appropriate marking devices when applying herbicides by air.
  - Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.
  - Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills.
- PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup® Ultra herbicide before using. These terms apply to this supplemental labeling and, if these terms are not acceptable, return the product unopened at once.

MONSANTO COMPANY 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

12/11/96

21137U1-40

225



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

246942

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Roundup Ultra RT Herbicide - Notification: Supplemental 1 in various counties in Minnesota

NOTIFICATION

NOV 7 1996

## Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Unit Packaging wgt. No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Package wgt. No. per container	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		226 SIG 11/10/97
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Oct. 31, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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2. Confidential Statement of Formula (EPA Form 8570-4);
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**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "change label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "no-to", reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING. FOLLOW ALL APPLICATION DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE EPA REGISTERED LABEL.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.

ROUNDUP ULTRA RT logo

NOTIFICATION

NOV 7 1996

EPA Reg. No. 524-475

### FOR USE IN CERTAIN COUNTIES IN MINNESOTA

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used in the following counties in Minnesota.

Aitkin	Becker
Beltrami	Benton
Big Stone	Cass
Clay	Clearwater
Crow Wing	Douglas
Grant	Hubbard
Itasca	Kanabec
Kittson	Koochiching
Lake of the Woods	Mahnomen
Marshall	Mille Lacs
Morrison	Norman
Ottertail	Pennington
Polk	Pope
Red Lake	Roseau
Steams	Stevens
Swift	Todd
Traverse	Wadena
Wilkin	

Refer to the label booklet for Roundup Ultra RT herbicide for Complete Directions for Use and the use precautions and restrictions.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

October 31, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**NOTIFICATION: Supplemental Label for Use in Various**  
**Counties in Minnesota**

Dear Sir:

Monsanto is notifying the Agency of a supplemental label for Roundup Ultra RT herbicide. This product is currently registered for use in 39 counties in Minnesota; (see notification dated June 3, 1996). Monsanto now wishes to distribute and sell this product in only 35 counties in Minnesota. This supplemental label will be distributed in Minnesota only.

Three (3) copies of the revised supplemental label are enclosed for your files. An application for Pesticide Amendment is also enclosed.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

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cc: R.P. Schneider  
S.L. Sunderland  
D.M. Fee-White  
T.R. Staniforth

I hope this is the last time we have to add/delete counties -- it's getting embarrassing!

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 11 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, NW Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Low Volume Application to Small Grains in  
South Dakota)  
EPA Registration No. 524-475  
Your Application Dated October 10, 1996

The labeling referred to above, submitted in connection with  
registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as  
amended is acceptable. A stamped copy of labeling is enclosed for your  
records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES

SYMBOL	7505C							
SURNAME	VICW							
DATE	12/10/96							

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

SUBMISSION REVIEW RECORD				REGISTRATION NUMBER		CYCLE		DATE RECEIVED	
1. IS A PUBLICATION NECESSARY?				4. PETITION NO.		5. RECEIVED BY TEAM		6. PROJECTED RETURN	
<input type="checkbox"/> YES <input type="checkbox"/> NO						<input type="checkbox"/> YES <input type="checkbox"/> NO		<input type="checkbox"/> YES <input type="checkbox"/> NO	
5. METHOD OF SUPPORT				7. PRODUCT MANAGER		NO.		8. PROJECTED RETURN	
<input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C								<input type="checkbox"/> YES <input type="checkbox"/> NO	
9. DATE FILED		10. DATE PUBLISHED		11. ACTION TYPE		CODE		12. OUTGOING DATE	
				Roundup Ultra & Ultra PT 4 Vapyl 12 small green S Dab				<input type="checkbox"/> YES <input type="checkbox"/> NO	
REV. NO.	REV. TYPE	REVIEW TYPE	REVIEWER CODE (initials)	SIGNATURE OF REVIEWER		COM. CODE	DATE REVIEW COMPLETED		
	A	REVIEWABILITY TEAM							
	B	PRODUCT MANAGER TEAM EFFICACY REVIEW							
	C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW							
	D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW							
	E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW							
	F	PRODUCT MANAGER		VKW		NAC	1	11	215 9/6
	G	INTERAGENCY REFERRAL							
	H	COST-BENEFIT REVIEW							
	I	PUBLIC COMMENTS REVIEW							
	J	EEE BRANCH INSECTICIDE EFFICACY							
	K	EEE BRANCH HERBICIDE EFFICACY							
	L	EEE BRANCH FUNGICIDE EFFICACY							
	M	EEE BRANCH RODENTICIDE EFFICACY							
	N	EEE BRANCH DISINFECTANT EFFICACY							
	O	CHEMISTRY BRANCH RESIDUE CHEMISTRY							
	P	EEE BRANCH ENVIRONMENTAL CHEMISTRY							
	Q	TOXICOLOGY BRANCH HUMAN SAFETY							
	R	EEE BRANCH ENVIRONMENTAL SAFETY							
	S								
	T								
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				CODE	

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

246934

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental labels for low water volumes applications in small grain cropping systems in South Dakota

REC'D EPA/OPP/OPD  
OCT 16 P2:41

## Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		733
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Oct 10, 1996		

**PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS**

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION 1** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicated the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.  
6. EPA Use Only.



United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

**Applicant's Name and Address**

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

**EPA File Symbol/Registration Number**

524-475

**Product Name** Roundup® Ultra Herbicide  
Roundup® Ultra RT Herbicide

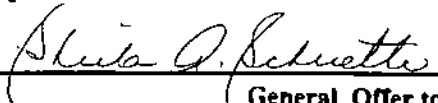
**Date of Application**

10/10/96

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
2. I certify that, for each study cited in support of this application for registration that is an exclusive study,
  - ☒ I am the original submitter\*; or
  - ☐ I have obtained the written permission of the original data submitter to cite that study\*.
3. I certify that, for each study cited in support of this application for registration that is not an exclusive study:
  - a. ☒ I am the original data submitter\*; or
  - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
  - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
    - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
    - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature 	Name and Title Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	Date Oct. 10, 1996
General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.		
Signature	Name and Title	Date



# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

October 10, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Labels for Low Water Volume**  
**Applications in Small Grain Cropping Systems in South Dakota**

Dear Sir:

Monsanto is submitting supplemental labels for use of Roundup Ultra herbicide and Roundup Ultra RT herbicide (EPA Reg. No. 524-475) for low water volume applications in small grain cropping systems. For ground applications, water volumes of 3-5 gallons per acre are recommended. For aerial applications, the recommendation is 2-3 gallons of water per acre. This label will be distributed in South Dakota only. A similar label was previously approved by the Agency for Roundup Export herbicide (EPA Reg. No. 524-308) on October 10, 1990.

Five (5) copies of the proposed supplemental label for each brand name are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

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October 10, 1996  
Page 2

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
S.L. Sunderland  
D.M. Fee-White

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# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ROUNDUP ® ULTRA  
Herbicide by Monsanto

EPA Reg. No. 524-475

ACCEPTED

DEC 11 1996

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

96 DEC 16 P2:41

REC'D EPA/OP/DPD1

FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA  
FOR NONSELECTIVE CONTROL OF LISTED ANNUAL WEEDS  
IN SMALL GRAIN CROPPING SYSTEMS.

Keep out of reach of children.

## CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

## RECOMMENDATIONS

Refer to the Roundup Ultra label for rate recommendations and weeds controlled.

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For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

#### **ATTENTION**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

#### **NOTE**

- To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.
- Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets.
- In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.
- Ensure uniform application. Use appropriate marking devices when applying herbicides by air.
- Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.
- Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

---

**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

---

© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 11 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, NW Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra RT Herbicide (Low Volume Application to Small Grains in South Dakota)  
EPA Registration No. 524-475  
Your Application Dated October 10, 1996

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	75854						240
SURNAME	Vicwaters						
DATE	12/10/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO : 1986-150-110



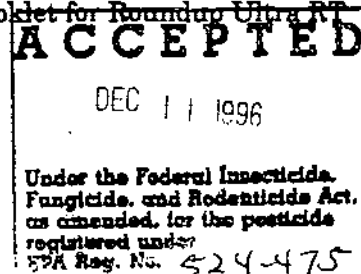
## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT and this supplement.

ROUNDUP ® ULTRA RT  
Herbicide by Monsanto

EPA Reg. No. 524-475



FOR DISTRIBUTION AND USE ONLY WITHIN SOUTH DAKOTA  
FOR NONSELECTIVE CONTROL OF LISTED ANNUAL WEEDS  
IN SMALL GRAIN CROPPING SYSTEMS.

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra RT herbicide for essential product performance information.

### RECOMMENDATIONS

Refer to the Roundup Ultra RT label for rate recommendations and weeds controlled.

RECD EPA/OPP/DPD1

96 DEC 16 2:40

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For ground applications, use 3 to 5 gallons of water per acre. For aerial applications, use 2 to 3 gallons of water per acre.

#### **ATTENTION**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

#### **NOTE**

- To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.
- Adjust boom height on ground equipment to prevent streaked, overlapped or uneven applications. Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets.
- In aerial applications, do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.
- Ensure uniform application. Use appropriate marking devices when applying herbicides by air.
- Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.
- Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residue of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

---

**Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.**

---

© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

242



# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

November 11, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**For Use in Certain Counties in Minnesota**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra RT herbicide for your files. Monsanto notified the agency of this label, which allows use of this product in certain counties in Minnesota, on October 31, 1996.

Enclosed are five (5) copies of the label (version 21138U3-6).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

246944

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: For Use in Certain Counties in Minnesota

## Section - III

1. Material This Product Will Be Packaged in:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  244
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Nov 11, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING. FOLLOW ALL APPLICATION DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE EPA REGISTERED LABEL.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup® Ultra RT herbicide and this supplement.



EPA Reg. No. 524-475

### FOR USE IN CERTAIN COUNTIES IN MINNESOTA

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used in the following counties in Minnesota.

Aitkin	Becker
Beltrami	Benton
Big Stone	Cass
Clay	Clearwater
Crow Wing	Douglas
Grant	Hubbard
Itasca	Kanabec
Kittson	Koochiching
Lake of the Woods	Mahnomen
Marshall	Mille Lacs
Morrison	Norman
Ottertail	Pennington
Polk	Pope
Red Lake	Roseau
Stearns	Stevens
Swift	Todd
Traverse	Wadena
Wilkin	

Refer to the label booklet for Roundup Ultra RT herbicide for Complete Directions for Use and the use precautions and restrictions.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

11/6/96

21138U3-6

246



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
243161

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification: Roundup Ultra RT Herbicide for use in dormant rangeland

NOTIFICATION  
AUG 26 1996

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  247  S.I.G. 11/16/96
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Aug. 9, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-to-o," reregistration, etc.

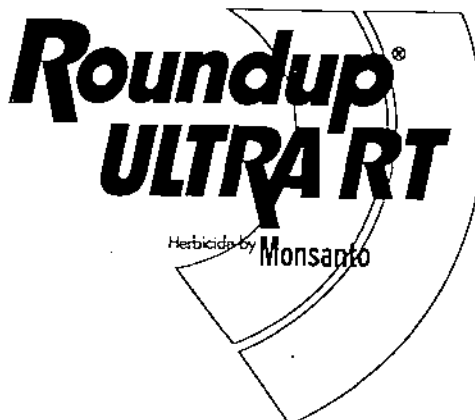
- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT and this supplement.



NOTIFICATION  
AUG 26 1996

EPA Reg. No. 524-475

### FOR USE IN DORMANT RANGELAND

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### RECOMMENDATIONS

This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland.

Apply 8 to 16 fluid ounces of this product per acre in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass, are still truly dormant.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

Do not use ammonium sulfate when spraying dormant rangeland grasses with this product.

Do not make more than one application per year.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21138U1-11

4/1/96

249

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

August 9, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **NOTIFICATION:**  
**Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**For Use in Dormant Rangeland**

Dear Sir:

On April 1, 1996, the Agency approved a supplemental label for use of Roundup Ultra herbicide in dormant rangeland. At this time, Monsanto is notifying the Agency that we are extending this use to Roundup Ultra RT herbicide, which is registered as an alternate to Roundup Ultra herbicide under EPA Reg. No. 524-475.

Five (5) copies of the label (version 21138U1-11) are enclosed.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

250





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243160

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification: Roundup Ultra RT Herbicide for preharvest application on alfalfa

AUG 15 1996

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 733-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped) 251 11/16/96
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Aug. 5, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). If not exempted by 40 CFR 152.81 (b) (4);
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A - Check the appropriate action for which you are submitting this form.**

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

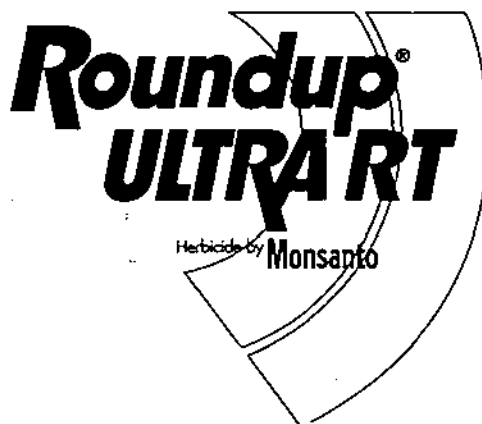
- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



NOTIFICATION  
AUG 15 1996

EPA Reg. No. 524-475

### FOR PREHARVEST APPLICATIONS IN ALFALFA **CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### **RECOMMENDATIONS**

This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This product will control labeled annual and perennial weeds, including quackgrass, when applied prior to the harvest of alfalfa.

The treated crop and weeds can be harvested and fed to livestock. Allow a minimum of 36 hours between application and harvest.

Use up to 1 quart of this product per acre. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year.

For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively

growing. Treatments must be followed by deep tillage for complete control.

Do not use for alfalfa grown for seed.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

253  
©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21138U1-8

6/20/96

# Monsanto

---

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

August 5, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **NOTIFICATION:**  
**Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**For Preharvest Applications in Alfalfa**

Dear Sir:

On March 25, 1996, the Agency approved a supplemental label for use of Roundup Ultra herbicide for preharvest applications in alfalfa. At this time, Monsanto is notifying the Agency that we are extending this use to Roundup Ultra RT herbicide, which is registered as an alternate to Roundup Ultra herbicide under EPA Reg. No. 524-475.

Five (5) copies of the label (version 21138U1-8) are enclosed.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

254

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 23 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Mini Bulk Container Label)  
EPA Registration No. 524-475  
Your Application Dated August 30, 1996

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. Please submit three (3) copies of your final printed labeling before you release the product for shipment. A stamped copy of labeling is enclosed for your records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	VK Waller						
DATE	10/22/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO : 1986-159-319

SUBMISSION REVIEW RECORD		REGISTRATION NUMBER		DATE RECEIVED	
1. IS PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO		4. PETITION NO.		5. RECEIVED BY TEAM NO DAY YR	
6. METHOD OF SUPPORT <input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C		7. PRODUCT MANAGER		8. PROJECTED RETURN NO DAY YR	
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE Revised Name Bulk Container Label 300	
12. OUTGOING DATE NO DAY YR		13. REVIEW TYPE		14. REVIEWER CODE (Initials)	
15. SIGNATURE OF REVIEWER		16. COMMENT CODE		17. DATE REVIEW COMPLETED NO DAY YR	
A	REVIEWABILITY TEAM				
B	PRODUCT MANAGER TEAM EFFICACY REVIEW				
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW				
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW				
E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW				
F	PRODUCT MANAGER			UICW NAC	017 916
G	INTERAGENCY REFERRAL				
H	COST-BENEFIT REVIEW				
I	PUBLIC COMMENTS REVIEW				
J	EEE BRANCH INSECTICIDE EFFICACY				
K	EEE BRANCH HERBICIDE EFFICACY				
L	EEE BRANCH FUNGICIDE EFFICACY				
M	EEE BRANCH RODENTICIDE EFFICACY				
N	EEE BRANCH DISINFECTANT EFFICACY				
O	CHEMISTRY BRANCH RESIDUE CHEMISTRY				
P	EEE BRANCH ENVIRONMENTAL CHEMISTRY				
Q	TOXICOLOGY BRANCH HUMAN SAFETY				
R	EEE BRANCH ENVIRONMENTAL SAFETY				
S					
T					
PRODUCT MANAGER SIGNATURE		TYPE OF RESPONSE		CODE	



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243177

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of revised mini-bulk container label

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must submitted If "Yes" Unit Packaging wgt. No. per container If "Yes" Package wgt. No. per container					
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  257
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Aug 30, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

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1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types:  
Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

258  
1-800-633-7276  
EPA Form 8570-1 (Rev. 1-80)



# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

August 30, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Revised Mini-Bulk Container Label**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a revised mini-bulk container label for Roundup Ultra herbicide (EPA Reg. No. 524-475). The proposed revisions to the Storage and Disposal section are highlighted in yellow. These changes are being requested to clarify the various return and disposal options available to the user.

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
D.M. Fee-White

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 23 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Revise Label for Soybeans with the Roundup Ready Gene)  
EPA Registration No. 524-475  
Your Application Dated September 16, 1996

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	UKWallas						
DATE	10/22/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

411 C (10) - 1096-100-210

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314) 694-4000.

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lode, causing serious  
open flame, spark,  
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regulations.

#### quirements

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in Standard, 40 CFR  
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in the Directions for  
ut this standard.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

#### Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**DISPOSAL:** Wastes of this pesticide may cause eye and skin irritation and may be dangerous. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label use instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Do not reuse this container, except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to an authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(See label booklet for Complete Directions for Use)

#### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine,  
in the form of its Isopropylamine salt . . . . . 41.0%


INERT INGREDIENTS: . . . . . 59.0%  
100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its Isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

For product information or assistance in using this product, Call toll-free, 1-800-332-3111.

\*Roundup is a registered trademark of Monsanto Company  
©MONSANTO COMPANY 1996

 MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167 U.S.A.

EPA Reg. No. 524-475

21137U2-7/53-1

**ACCEPTED**

OCT 23 1996

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

PLACE  
Complete Directions For Use  
Booklet  
HERE

36 SEP -6 A9 :22

RECD EPA/OPP/DPD1

**NET CONTENTS**

EPA Est.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

**ACCEPTED**

OCT 23 1996

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

"label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra, container labels and this supplement.

### Roundup Ultra Herbicide

EPA Reg. No. 524-475

96 SEP 19 P2:49

RECD EPA/OPP/DPD01

#### FOR POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE

#### ROUNDUP READY® GENE

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® and Roundup Ready® Gene are registered trademarks of Monsanto Company.  
Roundup Ready™ is a trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This label must be in the possession of the user at the time of application.

See "GENERAL INFORMATION" and "APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

**NOTE: Do not feed or graze treated soybean forage.**

#### General Information

#### FOR POSTEMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES WHICH HAVE THE ROUNDUP READY® GENE.

- Applying this product to soybean varieties which are not designated as Roundup Ready™ will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene, since severe injury or destruction will result.
- Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" soybean seed saved from previous year's production and replanted.
- The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to Monsanto's Roundup brand herbicides. Information on Roundup Ready soybeans may be obtained from your seed supplier or Monsanto representative.

### Application Instructions

This product may be applied postemergence to Roundup Ready soybeans from the cracking stage through the full flowering stage.

Allow a minimum of 14 days between application and harvest of soybeans.

### Maximum Allowable Yearly Rates

- Preplant: Maximum amount of this product which can be applied prior to crop emergence is 5 quarts/A.
- In-crop: Maximum combined total of single or multiple in-crop applications from cracking to flowering is 3 quarts/A and the maximum rate for any single in-crop application is 2 quarts/A.
- Preharvest: Maximum amount of this product that can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart/A. The combined total of preharvest and in-crop applications may not exceed 3 quarts/A.
- Cropping Season: Combined total per year for all applications may not exceed 8 quarts/A.

### Maximum Allowable Yearly Rates

1. Combined total per year for all applications	8 quarts/A
2. Preplant, Preemergence applications	5 quarts/A
3. Total of single or multiple in-crop applications from cracking to flowering	2 quarts/A
4. Maximum preharvest application rate	1 quart/A

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

There are no rotational crop restrictions following applications of this product.

For ground applications: Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use nozzles which provide a flat fan pattern~~flat fan nozzles~~. Check for even distribution of spray droplets.

For aerial applications: Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of this product per acre. DO NOT APPLY DURING LOW LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATIONS ON ROUNDUP READY SOYBEANS, MAY BE MADE ONLY IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, KANSAS, LOUISIANA, MISSISSIPPI, MISSOURI (BOOT-HEEL ONLY), NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE AND TEXAS.

### ANNUAL WEED RATE TABLES

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the label booklet for rate recommendations for specific annual weeds.

Tank mixtures with other herbicides are not recommended due to potential for crop injury and/or weed antagonism and to rotational crop restrictions of the tank mix partner.

This product may be used up to 64 fluid ounces per acre in any single application for control of annual weeds, where heavy weed densities exist.

NOTE: In no-till and stale seedbed systems, always burn down existing weeds before soybeans emerge. Apply a preplant burn-down treatment of 16-64 fluid ounces per acre of this product.

### MIDWEST RECOMMENDATIONS

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fl oz/A)
3-6	24
6-12	32
12-18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soy-bean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

#### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
3-6	24
6-12	32
12-18	48

#### Sequential Application\*

Weed Height (inches)	Rate (fl oz/A)
1-3	16
3-6	24
6-12	32

\*Combined Total application in-crop not to exceed 96 fluid ounces per acre.

For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:

Weed Height (inches)	Rate (fl oz/A)
1-3	24
3-6	32
6-12	48

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Giant ragweed: Apply 32 fl oz/A when the weed is 8-12" tall to avoid the need for sequential application.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments (not including preharvest) must not exceed 9664 fluid ounces per acre.

### MID-ATLANTIC/SOUTHEAST RECOMMENDATIONS

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fl oz/A)
3-6	24
6-12	32
12-18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fl oz/A may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

<u>Initial Treatment</u>	
Weed Height (inches)	Rate (fl oz/A)
3-6	24
6-12	32
12-18	48

<u>Sequential Application*</u>	
Weed Height (inches)	Rate (fl oz/A)
1-3	16
3-6	24
6-12	32

\*Combined Total application in-crop not to exceed 9664 fluid ounces per acre.

**Hemp sesbania:** Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

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For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:

Weed Height (inches)	Rate (fl oz/A)
1-3	24
3-6	32
6-12	48

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments (~~not including preharvest~~) must not exceed 9664 fluid ounces per acre.

### DELTA/MID-SOUTH RECOMMENDATIONS

Narrow row or drilled soybeans: An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

Wide row soybeans: An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. ~~Cultivation, as needed, may be necessary to control late flushes of weeds.~~

<u>Initial Treatment</u>	
Weed Height (inches)	Rate (fl oz/A)
1-3	24
3-6	32
6-12	48

<u>Sequential Application*</u>	
Weed Height (inches)	Rate (fl oz/A)
1-3	16
3-6	24
6-12	32

\*Combined Total application in-crop not to exceed 9664 fluid ounces per acre.

Hemp sesbania: Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

### PERENNIAL WEEDS RATE RECOMMENDATIONS

A 32 to 64 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for

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Roundup Ultra. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY

ST. LOUIS, MISSOURI 63167

9/16/96 |

SUBMISSION REVIEW RECORD		REGISTRATION NUMBER		OFFICE		DATE RECEIVED	
1. IS A PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO		4. PETITION NO.		5. RECEIVED BY TEAM NO DAY YR		6. PROJECTED RETURN NO DAY YR	
8. METHOD OF SUPPORT <input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 2C		7. PRODUCT MANAGER		NO.		8. PROJECTED RETURN NO DAY YR	
9. DATE PULLED 10/8/96		10. DATE PUBLISHED		11. ACTION TYPE Leave Label for Rotor Appl to Department Knowledge Facility Gene 300		12. OUTGOING DATE CODE NO DAY YR	
V N E C O M P L E T E D	R E V I E W T Y P E	R E V I E W E R C O D E (Initials)	S I G N A T U R E O F R E V I E W E R	C O M M E N T C O D E	D A T E R E V I E W C O M P L E T E D		
					NO	DAY	YR
	A REVIEWABILITY TEAM						
	B PRODUCT MANAGER TEAM EFFICACY REVIEW						
	C PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW						
	D PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW						
	E PRODUCT MANAGER TEAM RESUBMISSION REVIEW						
	F PRODUCT MANAGER						
	G INTERAGENCY REFERRAL						
	H COST-BENEFIT REVIEW						
	I PUBLIC COMMENTS REVIEW						
	J EEE BRANCH INSECTICIDE EFFICACY						
	K EEE BRANCH HERBICIDE EFFICACY						
	L EEE BRANCH FUNGICIDE EFFICACY						
	M EEE BRANCH RODENTICIDE EFFICACY						
	N EEE BRANCH DISINFECTANT EFFICACY						
	O CHEMISTRY BRANCH RESIDUE CHEMISTRY						
	P EEE BRANCH ENVIRONMENTAL CHEMISTRY						
	Q TOXICOLOGY BRANCH HUMAN SAFETY						
	R EEE BRANCH ENVIRONMENTAL SAFETY						
	S						
	T						
PRODUCT MANAGER SIGNATURE			TYPE OF RESPONSE			CODE	



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

243200

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of a revised supplemental label for postemergence applications to soybeans with the Roundup Ready® Gene

96 SEP 19 P 2:48

RECD EPA/OPP/DPD1

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)  269
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs			
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date Sept. 16, 1996			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

Applicants Name and Address  Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005	EPA File Symbol/Registration Number  524-475
	Product Name  Roundup® Ultra Herbicide
	Date of Application  September 16, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
    - ☒ I am the original submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
    - a. ☒ I am the original data submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
      - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
      - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature 	Name and Title Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	Date Sept 16 1996
General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.		
Signature	Name and Title	Date

REC'D EPA/ORD/DPD1  
291

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

September 16, 1996  
Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of A Revised Supplemental Label for Postemergence**  
**Applications to Soybeans with the Roundup Ready® Gene**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for use Roundup Ultra herbicide for postemergence applications to soybeans with the Roundup Ready® gene. The following changes have been made to the label:

- The restriction against feeding or grazing treated soybean forage has been removed since the tolerance for this use was established on April 5, 1996 (61 FR 15192).
- The General Information section of the label has been revised. This revised language was submitted separately on August 21, 1996.
- The original label allowed a maximum of 2 quarts/acre for in-crop applications plus 1 quart/acre preharvest, for a total of 3 quarts/acre. We have revised the label so that the "preharvest" treatment may be made earlier in the season. Since the preharvest interval will be longer, residues are expected to be lower.
- We have expanded the list of states where aerial applications can be made to include Kansas and Oklahoma.

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Roundup® Ultra / Roundup Ready Soybeans  
September 16, 1996  
Page 2

- Minor changes have been made to the recommendations, including changing the height of some weeds, adding several new weed species, etc.

Monsanto requests that the Agency review and approve the enclosed supplemental label for postemergence application of Roundup Ultra herbicide to Roundup Ready soybeans.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
Eric Johnson  
Lyle Gingerich  
Dawn Fee-White

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 23 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Revise General Information Section of  
Soybeans with the Roundup Ready Gene)  
EPA Registration No. 524-475  
Your Application Dated August 21, 1996

The labeling referred to above, submitted in connection with  
registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as  
amended is acceptable. A stamped copy of labeling is enclosed for your  
records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	U. J. Taylor						
DATE	10/22/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

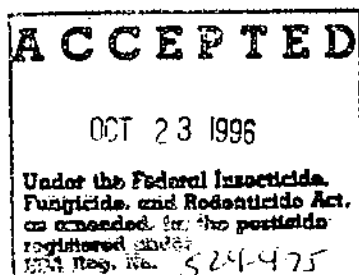
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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra, container labels and this supplement.



REC'D EPA/OPP/DPD1  
96 AUG 23 PM 2:25

EPA Reg. No. 524-475

### FOR POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE

### ROUNDUP READY® GENE

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® and Roundup Ready® Gene are registered trademarks of Monsanto Company.  
Roundup Ready™ is a trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

See "GENERAL INFORMATION" and "APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

**NOTE: Do not feed or graze treated soybean forage.**

#### General Information

FOR POSTEMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES WHICH HAVE THE ROUNDUP READY® GENE.

•Applying this product to soybean varieties which are not designated as Roundup Ready™ will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene, since severe injury or destruction will result.

•Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" soybean seed saved from previous year's production and replanted.

•The Roundup Ready designation indicates that the soybean contains a patented gene which provides tolerance to Monsanto's Roundup brand herbicides. Information on Roundup Ready soybeans may be obtained from your seed supplier or Monsanto representative.

#### Application Instructions

This product may be applied postemergence to Roundup Ready Soybeans from the cracking stage through the full flowering stage.

Allow a minimum of 14 days between application and harvest of soybeans.

#### Maximum Allowable Yearly Rates

- |  |            |
|--|------------|
| 1. Combined total per year for all applications                                | 8 quarts/A |
| 2. Preplant, Preemergence applications   | 5 quarts/A |
| 3. Total of single or multiple in-crop applications from cracking to flowering | 2 quarts/A |
| 4. Maximum preharvest application rate   | 1 quart/A  |

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready Soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

There are no rotational crop restrictions following applications of this product.

**For ground applications:** Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

**For aerial applications:** Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of this product per acre. DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATIONS ON ROUNDUP READY SOYBEANS, MAY BE MADE ONLY IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, LOUISIANA, MISSISSIPPI, MISSOURI (BOOTHEEL ONLY), NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE AND TEXAS.

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## ANNUAL WEED RATE TABLES

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the label booklet for rate recommendations for specific annual weeds.

Tank mixtures with other herbicides are not recommended due to potential for crop injury and/or weed antagonism and to rotational crop restrictions of the tank mix partner.

This product may be used up to 64 fluid ounces per acre for control of annual weeds, where heavy weed densities exist.

**NOTE:** In no-till and stale seedbed systems, always burn down existing weeds before soybeans emerge. Apply a preplant burndown treatment of 16-48 fluid ounces per acre of this product.

### MIDWEST RECOMMENDATIONS

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fl oz/A)
0-6	24
6-12	32
12-18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-24 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

<u>Initial Treatment</u>	
Weed Height (inches)	Rate (fl oz/A)
0-6	24
6-12	32
12-18	48

<u>Sequential Application*</u>	
Weed Height (inches)	Rate (fl oz/A)
0-3	16
3-6	24

\*Total application not to exceed 64 fluid ounces per acre.

For morningglory, black nightshade, groundcherry apply:

Weed Height (inches)	Rate (fl oz/A)
0-3	24
3-6	32
6-12	48

Giant ragweed: Apply 32 fl oz/A when the weed is 8-12" tall to avoid the need for sequential application.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, and giant ragweed, with multiple germination times may require a sequen-

tial application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments (not including preharvest) must not exceed 64 fluid ounces per acre.

### MID-ATLANTIC/SOUTHEAST RECOMMENDATIONS

**Narrow row or drilled soybeans:** A single in-crop application of this product will provide effective control of labeled weeds.

Weed Height (inches)	Rate (fl oz/A)
0-6	24
6-12	32
12-18	48

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-24 fluid ounces per acre may be necessary to control late flushes of weeds.

**Wide row soybeans:** A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

<u>Initial Treatment</u>	
Weed Height (inches)	Rate (fl oz/A)
0-6	24
6-12	32
12-18	48

<u>Sequential Application*</u>	
Weed Height (inches)	Rate (fl oz/A)
0-3	16
3-6	24

\*Total application not to exceed 64 fluid ounces per acre.

Hemp sesbania: Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

For morningglory, black nightshade, groundcherry apply:

Weed Height (inches)	Rate (fl oz/A)
0-3	24
3-6	32
6-12	48

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments (not including preharvest) must not exceed 64 fluid ounces per acre.

## DELTA/MID-SOUTH RECOMMENDATIONS

**Narrow row or drilled soybeans:** An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

**Wide row soybeans:** An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds. Cultivation, as needed, may be necessary to control late flushes of weeds.

### Initial Treatment

Weed Height (inches)	Rate (fl oz/A)
0-3	24
3-6	32
6-12	48

### Sequential Application\*

Weed Height (inches)	Rate (fl oz/A)
0-3	16
3-6	24

\*Total application not to exceed 64 fluid ounces per acre.

Hemp sesbania: Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

## PERENNIAL WEEDS RATE RECOMMENDATIONS

A 32 to 64 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horse-nettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpet creeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for Roundup Ultra. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U2-12/53

7/31/96

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SUBMISSION REVIEW RECORD		REGISTRATION NUMBER		DATE RECEIVED	
1. IS A PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO		4. PETITION NO.		5. RECEIVED BY TEAM NO DAY YR	
6. METHOD OF SUPPORT <input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 1C		7. PRODUCT MANAGER		8. PROJECTED RETURN NO DAY YR	
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE Revise General Information of Registration for Inj. Review 300	
10/17/96				12. OUTGOING DATE NO DAY YR	
13. REVIEW TYPE		REVIEWER CODE (Initials)		DATE REVIEW COMPLETED NO DAY YR	
A. REVIEWABILITY TEAM					
B. PRODUCT MANAGER TEAM EFFICACY REVIEW					
C. PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW					
D. PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW					
E. PRODUCT MANAGER TEAM RESUBMISSION REVIEW					
F. PRODUCT MANAGER		VAC		VAC 10/07/96	
G. INTERAGENCY REFERRAL					
H. COST-BENEFIT REVIEW					
I. PUBLIC COMMENTS REVIEW					
J. EEE BRANCH INSECTICIDE EFFICACY					
K. EEE BRANCH HERBICIDE EFFICACY					
L. EEE BRANCH FUNGICIDE EFFICACY					
M. EEE BRANCH RODENTICIDE EFFICACY					
N. EEE BRANCH DISINFECTANT EFFICACY					
O. CHEMISTRY BRANCH RESIDUE CHEMISTRY					
P. EEE BRANCH ENVIRONMENTAL CHEMISTRY					
Q. TOXICOLOGY BRANCH HUMAN SAFETY					
R. EEE BRANCH ENVIRONMENTAL SAFETY					
S.					
T.					
PRODUCT MANAGER SIGNATURE		TYPE OF RESPONSE		CODE	



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number  
243166

### Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of a revised supplemental label for postemergence applications to soybeans with the Roundup Ready® Gene

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)  278
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date Aug. 21, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registratic action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "re-registration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.  
6. EPA Use Only.

A

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

August 21, 1996  
Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)  
Submission of A Revised Supplemental Label for Postemergence  
Applications to Soybeans with the Roundup Ready® Gene**

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for use Roundup Ultra herbicide for postemergence applications to soybeans with the Roundup Ready® gene. Monsanto has revised the General Information section of the label due to concerns raised by SFIREG and state enforcement officials. This section of the label has been completely rewritten and we believe that the new version completely addresses the concerns that have been raised. The rest of the label is unchanged.

Monsanto requests that the Agency review and approve the enclosed supplemental label for postemergence application of Roundup Ultra herbicide to Roundup Ready soybeans.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 23 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Submission of Product Chemistry and Acute Toxicology Studies)  
EPA Registration No. 524-475  
Your Letter Dated July 10, 1996

This acknowledges receipt of your letter dated July 10, 1996 submitting product chemistry and acute toxicology studies for MON 77360, an alternate formulation for the subject product. This information has been sent to the files. The MRIDs assigned these data are as follows:

Volume 1	44057201
Volume 2	44057202
Volume 3	44057203
Volume 4	44057204
Volume 5	44057205
Volume 6	44057206
Volume 7	44057207

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	V. K. Walker						
DATE	10/22/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

July 10, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplementary Information**  
**in Support of MON 77360 Herbicide**

Dear Sir:

On June 19, 1996, the Agency approved MON 77360 as an alternate formulation for Roundup Ultra herbicide (EPA Reg. No. 524-475). At this time, Monsanto is submitting supplementary information for this formulation. Although this information has not been required by the Agency, Monsanto conducted these studies for product stewardship reasons.

A seven-volume submission, designated R. D. 1351, is enclosed. This submission contains product chemistry (Guideline Series 61, 62 and 63) and acute toxicity data (Guidelines 81-1 through 81-6) on MON 77360 herbicide. The acute toxicity results are identical to the MON 65005, which is also registered under EPA Reg. No. 524-475:

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MON 77360  
July 10, 1996  
Page 2

<u>Guideline</u>	<u>Study Type</u>	<u>MON 65005 Category</u>	<u>MON 77360 Category</u>
81-1	Acute Oral	IV	IV
81-2	Acute Dermal	IV	IV
81-3	Acute Inhalation	IV	IV
81-4	Eye Irritation	III	III
81-5	Dermal Irritation	IV	IV
81-6	Dermal Sensitization	No	No

If you have any questions regarding this submission of supplementary information, please contact Russ Schneider or me.

Sincerely,



Sheila A. Schuette  
Manager, Regulatory Affairs  
(314) 694-7248

cc. R.P. Schneider

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs

JUL 16 1996

MONSANTO COMPANY  
700 CHESTERFIELD PARKWAY NORTH  
ST. LOUIS, MO 63198

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 07/12/96. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.

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TRANSMITTAL DOCUMENT

SUBMITTED BY

Monsanto Company  
800 N. Lindbergh Blvd.  
St. Louis, Missouri 63167

REGULATORY ACTION IN SUPPORT OF WHICH THIS PACKAGE IS SUBMITTED

Supplementary Information in Support of  
Roundup® Ultra Herbicide  
EPA Reg. No. 524-475

TRANSMITTAL DATE

July 10, 1996

SUBMITTED STUDY

R.D. 1351

LIST OF SUBMITTED DOCUMENTS

Volume 1: P.J. Nord, "Product Chemistry Data to Support the Registration of MON 77360 Herbicide" (1996), MSL 14593, an unpublished study conducted by Monsanto Company. (Guideline Series 61, 62, and 63)

MRID 44057201

Volume 2: D. L. Blaszcak, "Acute Oral Toxicity Study in Rats with MON 77360" (1996), Study No. HU-96-68, an unpublished study conducted by Huntingdon Life Sciences for Monsanto Company. (Guideline 81-1)

MRID 44057202

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Volume 3: D. L. Blaszcak, "Acute Dermal Toxicity Study in Rats with MON 77360" (1996), Study No. HU-96-069, an unpublished study conducted by Huntingdon Life Sciences for Monsanto Company. (Guideline 81-2)

MRID 44057203

Volume 4: T.A. Kaempfe and S.R. Beckett, "Acute Inhalation Study for MON 77360" (1996), MSL-14676, an unpublished study conducted by Monsanto Company. (Guideline 81-3)

MRID 44057204

Volume 5: D. L. Blaszcak, "Primary Eye Irritation Study in Rabbits with MON 77360" (1995), Study No. HU-95-327, an unpublished study conducted by Huntingdon Life Sciences for Monsanto Company. (Guideline 81-4)

MRID 44057205

Volume 6: D. L. Blaszcak, "Primary Dermal Irritation Study in Rabbits with MON 77360" (1996), Study No. HU-96-070, an unpublished study conducted by Huntingdon Life Sciences for Monsanto Company. (Guideline 81-5)

MRID 44057206

Volume 7: D. L. Blaszcak, "Closed-Patch Repeated Insult Dermal Sensitization Study in Guinea Pigs with MON 77360 (Buehler Method)" (1996), Study No. HU-96-071, an unpublished study conducted by Huntingdon Life Sciences for Monsanto Company. (Guideline 81-6)

MRID 44057207

COMPANY OFFICIAL: Sheila A. Schuette  
Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs

COMPANY NAME: MONSANTO COMPANY

COMPANY CONTACT: Dr. Russ Schneider (202) 783-2460

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

July 29, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**  
**Submission of Final Printed Supplemental Labels:**  
**Control or Suppression of *Bromus* Species and Medusahead Rye**  
**in Industrial, Rangeland and Pasture Sites**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup herbicide for your files. This label, which allows use of this product for control or suppression of *bromus* species and medusahead rye in industrial, rangeland and pasture sites, was approved by the Agency on June 19, 1996. This label will be distributed in Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

Enclosed are five (5) copies of the label (version 21001U2-18). Please note that the label we had submitted contained the signal word "Caution", which is incorrect; the signal word has been corrected to "Warning" in the final printed version.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

287

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

Registration  
Amendment  
☒ Other

OPP Identifier Number  
243158

### Application for Pesticide - Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 6/19/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Control or suppression of bromus species and medusahead rye in industrial, rangeland and pasture sites

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No <b>certification must be submitted</b>	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product		
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)  <div style="font-size: 2em; transform: rotate(-15deg);">289</div>
2. Signature 	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date July 29, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

DATE

DATE

DATE



## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.

**NOT REVIEWED**  
In Accordance with FR Notice 82-2,  
Based on Draft Labeling Dated

6/19/96



EPA Reg. No. 524-445

**ROUNDUP HERBICIDE FOR CONTROL OR SUPPRESSION OF BROMUS SPECIES AND MEDUSAHEAD RYE FOUND IN INDUSTRIAL, RANGELAND AND PASTURE SITES IN COLORADO, IDAHO, IOWA, KANSAS, MONTANA, NEBRASKA, NORTH DAKOTA, OREGON, SOUTH DAKOTA, UTAH, WASHINGTON AND WYOMING.**

Keep out of reach of children.

### WARNING!

In case of emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

When applied as directed in this label, there are no grazing restrictions.

#### **APPLICATION EQUIPMENT AND TECHNIQUES**

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

Mix 0.5 to 1.0 percent nonionic surfactant (2 to 4 quarts per 100 gallons of spray solution) with the spray solution. The surfactant should be at least 80 percent active ingredient.

#### **BROMUS SPECIES**

This product may be used to treat downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheat-grass (*Bromus secalinus*) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable

perennial grasses are able to become reestablished on the site.

#### **MEDUSAHEAD RYE**

To treat medusahead rye, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to seedhead emergence. Applications may be made in the fall or spring.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21001U2-18

7/29/96

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

June 27, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® ULTRA Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Labels**  
**Your Letter Dated March 22, 1996**

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® Ultra herbicide label booklet for your files. This label was approved by the Agency on November 7, 1995. In addition, we have made the following change, as requested in the Agency's letter of March 22, 1996:

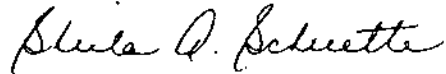
On page 13 of the label booklet (Section 6.4 Ammonium Sulfate), the statement "Do not use herbicide rates lower than recommended in this label" has been changed to "When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance."

Enclosed are five (5) copies of the label booklet (version 1996-2: 21137U2-2/53).

Roundup® ULTRA Label 1996-2  
June 27, 1996  
Page 2

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider  
L.A. Suba  
L.L. Gingerich

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243145

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 3/22/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed labels  
Your letter dated March 22, 1996

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No <b>certification must be submitted</b>	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2450
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		6. Date Application Received (Stamped)  <div style="text-align: right; font-size: 2em;">294</div>
2. Signature 	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date June 27, 1996	

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- 1-5. Self-explanatory.
6. EPA Use Only.

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## Complete Directions for Use

EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

©Roundup is a registered trademark of Monsanto Company.

1996-2 21137U2-2/53

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# Roundup ULTRA

Herbicide

## Complete Directions for Use

EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

®Roundup is a registered trademark of Monsanto Company.

1998-2-25 21137U2-253

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Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## 1.0 INGREDIENTS

### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine,  
in the form of its isopropylamine salt ..... 41.0%

INERT INGREDIENTS: ..... 59.0%  
100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,  
1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,  
1-314-694-4000

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

#### CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

FIRST AID: IF IN EYES, flush with plenty of water. Get medical attention if irritation persists.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

## PRECAUTIONARY STATEMENTS

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**User Safety Recommendations:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

### 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks.

#### Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

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## 4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

## 5.0 GENERAL INFORMATION (How this product works)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactants, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to this product.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody

brush and trees rate tables for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with her-

bicides or other materials not recommended on this label may result in reduced performance.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

For noncrop uses, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

#### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

## 6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

**NOTE:** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER THAT IS NOT CLEAR FROM PONDS AND DITCHES.

### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### 6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.

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4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

### 6.3 Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

#### Spray Solution

Desired Volume	1/2%	1%	1 1/2%	2%	5%	10%
1 Gal	1/2 oz	1 oz	1 1/2 oz	2 oz	5 oz	10 oz
25 Gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

### 6.4 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product when tank mixed with certain residual herbicides on annual and perennial weeds. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**NOTE:** When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

### 6.5 Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

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## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

**Aerial**—Fixed Wing and Helicopter

**Ground Broadcast Spray**—Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held and High-Volume Spray Equipment**—Knapsack and backpack sprayers, pump-up pressure sprayers, hand-guns, handwands, mistblowers\*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

\*This product is not registered in California or Arizona for use in mistblowers.

**Selective Equipment**—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems**—Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA)**—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### 7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this

label. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS. This product plus Oust™, Banvel™ or 2,4-D tank mixtures may not be applied by air in California.

Avoid direct application to any body of water.

**AVOID DRIFT**—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Ensure uniform application**—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF

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THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## 7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the annual weeds rate tables, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seed-head formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

### AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

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### Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

### Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators**—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section.

**For Porous-Plastic Applicators**—Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended, this product **CONTROLS** the following weeds:

Corn, volunteer  
Panicum, Texas  
Rye, common  
Shattercane

Sicklepod  
Spanishneedles  
Starbur, bristly

When applied as recommended, this product **SUPPRESSES** the following weeds:

Beggarweed, Florida  
Bermudagrass  
Dogbane, hemp  
Dogfennel  
Guineagrass  
Johnsongrass  
Milkweed  
Nightshade, silverleaf  
Pigweed, redroot

Ragweed, common  
Ragweed, giant  
Smutgrass  
Sunflower  
Thistle, Canada  
Thistle, musk  
Vaseygrass  
Velvetleaf

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

## 7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a

## APPLICATION EQUIPMENT



20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## 8.0 CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Also refer to the "SELECTIVE EQUIPMENT" section.

For any crop not listed in this "CROPS" section, applications must be made at least 30 days prior to planting.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

When applying this product prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

## 8.1 Alfalfa and Clover

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, renovation

**Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting alfalfa and clover. Applications must be made prior to emergence of the crop.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Spot treatment or Wiper applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

**Renovation**

**USE INSTRUCTIONS:** This product may be applied as a broadcast spray to existing stands of alfalfa or clover. Labeled crops may be planted into the treated area.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

## 8.2 Asparagus

**TYPES OF APPLICATIONS:** Preplant, preemergence, spot treatment, postharvest

**Preplant, Preemergence**

**USE INSTRUCTIONS:** This product may be applied prior to emergence of asparagus.

**PRECAUTIONS, RESTRICTIONS:** Do not apply within a week before the first spears emerge.

**Spot treatment**

**USE INSTRUCTIONS:** This product may be applied immediately after cutting, but prior to the emergence of new spears.

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**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### Postharvest

**USE INSTRUCTIONS:** This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**PRECAUTIONS, RESTRICTIONS:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## 8.3 Cereal Crops

**LABELED CROPS:** Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rice, Rye, Teosinte, Triticale, Wheat (All), Wild rice.

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment (except rice), post-harvest, preharvest (wheat only), wiper applicators (wheat only).

Do not treat rice fields or levees when the field contains flood water.

#### Preplant, Preemergence and At-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

#### Spot treatment (except rice)

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### Postharvest

**USE INSTRUCTIONS:** This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.

#### Preharvest (wheat only)

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

**PRECAUTIONS, RESTRICTIONS:** Do not apply more than 1 quart of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

#### Wiper applications (wheat only)

**USE INSTRUCTIONS:** Wiper applications may be used in wheat. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop.

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PRECAUTIONS, RESTRICTIONS: Allow at least 35 days between application and harvest. Do not use roller applicators.

## 8.4 Christmas Trees

TYPES OF APPLICATIONS: Post-directed, spot treatment, site preparation

### Post-directed, Spot treatment

USE INSTRUCTIONS: This product may be used as a post-directed spray and spot treatment around established Christmas trees.

PRECAUTIONS, RESTRICTIONS: Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

### Site preparation

USE INSTRUCTIONS: This product may be used prior to planting Christmas trees.

PRECAUTIONS, RESTRICTIONS: Precautions should be taken to protect nontarget plants during site preparation applications.

## 8.5 Citrus Crops

LABELED CROPS: Calamondin, Chironja, Citron, Grapefruit, Kumquat, Lemon, Lime, Mandarin Orange, Orange (All), Pummelo, Tangelo, Tangerine, Tangor

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

Florida and Texas only: For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar™ II or Karmex™ may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

### Perennial weeds:

S=Suppression  
PC=Partial Control

B=Burndown  
C=Control

Weed Species	Roundup® Ultra Rate Per Acre			
	1 QT	2 QT	3 QT	5 QT
Bermudagrass	B	—	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	—	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	—	PC	C

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 14 days between last application and harvest. For citron, apply as a post-directed spray only.

## 8.6 Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), site preparation, dormant, wiper

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**Rotating out of CRP, Site preparation**

**USE INSTRUCTIONS:** This product may be used to prepare CRP land for crop production.

**Dormant, Wiper**

**USE INSTRUCTIONS:** This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**PRECAUTIONS, RESTRICTIONS:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

**8.7 Corn**

**TYPES OF CORN:** Field corn, sweet corn and popcorn

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, post-harvest

**Preplant, Preemergence and At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre.

LASSO®/ALACHLOR	LARIAT®	BULLET®
PARTNER®	MICRO-TECH®	DUAL™
BICEPTM	ATRAZINE	CYANAZINE
SIMAZINE	PROWL™	

For improved burndown, this product may be tank mixed with 2,4-D or dicamba.

**Annual weeds—**For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. The tank mix recommendations in this section are not registered in California.

**Spot treatment**

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to silking of corn.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

**Post-harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** Do not harvest or feed treated vegetation for 8 weeks following application.

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## 8.8 Cotton

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest

### Preplant, Preemergence, and At-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

### Hooded sprayer, Selective equipment

**USE INSTRUCTIONS:** This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

### Spot treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to boll opening of cotton.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

This product may be tank mixed with DEFT<sup>TM</sup> 6, Folex<sup>TM</sup>, or Prep<sup>TM</sup> to provide additional enhancement of cotton leaf drop.

**PRECAUTIONS, RESTRICTIONS:** Do not feed or graze treated cotton forage or hay following preharvest applications. DO NOT APPLY MORE THAN 1 QUART OF THIS PRODUCT PER ACRE BY AIR. Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur.

## 8.9 Fallow Systems

**TYPES OF APPLICATIONS:** Chemical fallow, preplant fallow beds, aid-to-tillage

### Chemical fallow

**USE INSTRUCTIONS:** This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used.

**PRECAUTIONS, RESTRICTIONS:** DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

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**Preplant fallow beds**

**USE INSTRUCTIONS:** This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product will control weeds listed in the annual, perennial and woody brush tables.

In addition, 12 fluid ounces of this product plus 2 to 4 oz of Goal per acre will control the following weeds with the maximum height or length indicated: 3" — common cheeseweed, chickweed, groundsel; 6" — London rocket, shepherdspurse.

16 fluid ounces of this product plus 2 to 4 oz of Goal per acre will control the following weeds with the maximum height or length indicated: 6" — common cheeseweed, groundsel, marestail (*Conyza canadensis*), 12" — chickweed, London rocket, shepherdspurse.

**Aid-to-tillage**

**USE INSTRUCTIONS:** This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallons of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**PRECAUTIONS, RESTRICTIONS:** Tank mixtures with residual herbicides may result in reduced performance.

**8.10 Grain Sorghum (Milo)**

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, post-harvest

**Preplant, Preemergence, At-planting**

**USE INSTRUCTIONS:** This product may be applied before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

**Spot treatment and Wiper applications**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

**Post-harvest**

**USE INSTRUCTIONS:** This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

**PRECAUTIONS, RESTRICTIONS:** Do not harvest or feed treated vegetation for 8 weeks following application.

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## 8.11 Grass Seed Production

**TYPES OF APPLICATIONS:** Preplant, renovation, site preparation

**USE INSTRUCTIONS:** Applications may be made prior to planting or renovation of turf or forage grass areas grown for seed production. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

**PRECAUTIONS, RESTRICTIONS:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Do not feed or graze treated areas for 8 weeks following application.

## 8.12 Pastures

**TYPES OF PASTURES:** Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover

**TYPES OF APPLICATIONS:** Spot treatment, wiper application, preplant, preemergence, pasture renovation

**Spot treatment and Wiper application**

**USE INSTRUCTIONS:** This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**PRECAUTIONS, RESTRICTIONS:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

**Preplant, Preemergence and Pasture renovation**

**USE INSTRUCTIONS:** This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

**PRECAUTIONS, RESTRICTIONS:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

## 8.13 Peanuts

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting peanuts. Applications must be made prior to the emergence of the crop.

## 8.14 Small Fruits and Berries

**LABELED CROPS:** Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black, Red), Youngberry

**TYPES OF APPLICATIONS:** Preplant, preemergence, directed spray (except cranberry), wiper application

**USE INSTRUCTIONS:** This product may be applied as a pre-plant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

**PRECAUTIONS, RESTRICTIONS:** Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

## 8.15 Soybeans

**TYPES OF APPLICATIONS:** Preplant, preemergence, at-planting, spot treatment, preharvest, selective equipment, hooded sprayers

### Preplant, Preemergence and At-planting

**USE INSTRUCTIONS:** This product may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

MICRO-TECH	COMMAND™	DUAL
LASSO/ALACHLOR	CANOPY™	LEXONE™
PARTNER	PURSUIT™	GEMINI™
LOROX PLUS™	PREVIEW™	PROWL
TURBO™	SCEPTER™	SENCOR™
SQUADRON™	PURSUIT PLUS™	LINURON

For improved burndown, this product may be tank-mixed with 2,4-D or 2,4-DB. See the 2,4-D label for intervals between application and planting.

**Annual weeds:** For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**PRECAUTIONS, RESTRICTIONS:** The tank mix recommendations in this section are not registered in California.

### Spot treatment

**USE INSTRUCTIONS:** For spot treatments, apply this product prior to initial pod set in soybeans.

**PRECAUTIONS, RESTRICTIONS:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**USE INSTRUCTIONS:** This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial and woody brush tables. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**PRECAUTIONS, RESTRICTIONS:** Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. DO NOT APPLY MORE THAN 6 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

### Selective equipment

**USE INSTRUCTIONS:** This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

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**PRECAUTIONS, RESTRICTIONS:** See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

## 8.16 Sugarcane

**TYPES OF APPLICATIONS:** Preplant, preemergence, spot treatment, fallow

### Preplant, Preemergence

**USE INSTRUCTIONS:** This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**PRECAUTIONS, RESTRICTIONS:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

### Spot treatment

**USE INSTRUCTIONS:** This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**PRECAUTIONS, RESTRICTIONS:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

### Fallow treatments

**USE INSTRUCTIONS:** This product may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. This product may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage.

## 8.17 Tree and Vine Crops (General)

**TYPES OF APPLICATIONS:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression

**NOTE:** THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL CITRUS CROPS, TREE FRUITS, TREE NUTS AND VINE CROPS. SEE THE INDIVIDUAL CROP SECTIONS FOR INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS.

This product may be applied in middles, strips and for general weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at rates given in the annual, perennial and woody brush tables. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

### Middles (between rows)

**USE INSTRUCTIONS:** This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

A tank mixture of this product plus Goal may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 16 to 32 oz/A of this product plus 4 to 16 oz/A of Goal will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (*Conyza bonariensis*), common groundsel, junglerice, common lambsquarters, red-

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root pigweed, London rocket, common ryegrass, shepherd-spurge, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (*Coryza canadensis*), stinging nettle and common purslane (suppression). 12 to 32 oz/A of this product plus 4 to 16 oz/A of Goal will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

#### Strips (in rows)

USE INSTRUCTIONS: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products:

GOAL 1.6E	SIMAZINE	SURFLAN™ AS
KARMEX DF	PRINCEPT™ CALIBER™ 90	SURFLAN 75W
KROVAR I	SIMAZINE 4L	SIMAZINE 80W
KROVAR II	SOLICAM™ 80 DF	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Apply 1 pint to 5 quarts of this product per acre in these tank mixtures. Use rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

#### Perennial grass suppression

This product will suppress perennial grasses such as bahia-grass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16 fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

#### Selective equipment

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

GENERAL PRECAUTIONS/RESTRICTIONS: For all uses in this section.

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EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION. SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES AND VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING CUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

## 8.18 Tree Fruits

**LABELED CROPS:** Apple, Apricot, Cherry (Sweet, Sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (All), Quince

**TYPES OF APPLICATIONS:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

### Restrictions on application equipment

For cherries, any application equipment listed in this section may be used in all states.

For olives, apply as a post-directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

## 8.19 Tree Nuts

**LABELED CROPS:** Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory nut, Macadamia, Pecan, Pistachio, Walnut (Black, English)

**TYPES OF APPLICATIONS:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 3 days between last application and harvest of tree nuts, except pistachio nuts. For pistachio nuts allow a minimum of 21 days between last application and harvest.

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## 8.20 Tropical Crops

**LABELED CROPS:** Acerola, Atemoya, Avocado, Banana, Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coconuts, Coffee, Dates, Figs, Genip, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Papaya, Passion fruit, Persimmon, Pineapple, Plantain, Pomegranate, Sapodilla, Sapote (black, mamey, white), Soursop, Sugar apple, Tamarind, Tea.

**USE INSTRUCTIONS:** This product may be applied for general weed control or for site preparation prior to transplanting crops listed in this section. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

**PRECAUTIONS/RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, banana, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind, and tea.

Allow a minimum of 28 days between last application and harvest of plantain and coffee.

Allow a minimum of 1 day between last application and harvest of guava and papaya.

Do not feed or graze treated pineapple forage following application.

## 8.21 Vegetable Crops

**LABELED CROPS:** Amaranth, Arrugula, Artichoke (Jerusalem), Beans (All), Beet greens, Red Beets, Broccoli (All), Brussels sprouts, Cabbage (All), Cabbage (Chinese), Cantaloupe, Carrot, Cauliflower, Casaba melon, Celery, Celoriac, Celtuce, Chard (Swiss), Chervil, Chick peas, Chicory, Chrysanthemum, Collards, Corn salad, Crenshaw melon, Cress, Cucumber, Dandelion, Dock (sorrel), Eggplant, Endive, Fennel (florencia),

Garlic, Gerkin, Gourds, Ground cherry, Guar, Honeydew melon, Honey ball melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango melon, Melons (All), Muskmelon, Mustard greens, Okra, Onion, Parsley, Parsnips, Peas (All), Pepinos, Pepper (All), Persian melon, Potato (Irish), Pumpkin, Purslane, Radish, Rape greens, Rhubarb, Rutabaga, Salsify, Shallot, Spinach (All), Squash (Summer, Winter), Sugar beets, Sweet potato, Tomatillo, Tomato, Turnip, Watercress, Watermelon, Yams.

**USE INSTRUCTIONS:** This product may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables.

**PRECAUTIONS, RESTRICTIONS:** When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler system.

Use for direct-seeded tomatoes only.

For the following crops, apply only prior to planting. Allow at least 3 days between application and planting of cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, garlic, gherkin, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), persian melon, pumpkin, squash (summer, winter), tomatillo, tomato, watercress, and watermelon.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

## 8.22 Vine Crops

**LABELED CROPS:** Grape, Kiwi fruit

**TYPES OF APPLICATIONS:** General weed control, middles (between rows), strips (in row) selective equipment

**NOTE:** FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS.

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Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**PRECAUTIONS, RESTRICTIONS:** Allow a minimum of 14 days between last application and harvest.

## 9.0 FARMSTEADS

**TYPES OF APPLICATIONS:** General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management

### 9.1 General nonselective weed control, Trim-and-edge

**USE INSTRUCTIONS:** This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Banvel	Simazine 80W
Diuron	Surflan 75W
Princep Caliber 90	Surflan AS
Simazine	2,4-D
Simazine 4L	

Banvel and 2,4-D mixtures may not be applied by air in California

### 9.2 Chemical mowing

**USE INSTRUCTIONS:** This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**PRECAUTIONS, RESTRICTIONS:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### 9.3 Cut Stumps

**TYPES OF APPLICATION:** Treating cut stumps in any non-crop site listed on this label

**USE INSTRUCTIONS:** This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

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Alder	Salt cedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

PRECAUTIONS, RESTRICTIONS: DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT WOODY BRUSH OR TREES.

## 9.4 Habitat Management

TYPES OF USES: Habitat restoration and maintenance, wildlife food plots

### Habitat restoration and maintenance

USE INSTRUCTIONS: This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance.

### Wildlife food plots

USE INSTRUCTIONS: This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

## 10.0 ANNUAL WEEDS RATE TABLES Alphabetically by Species

Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

For those rates less than 32 fluid ounces per acre, this product may be used up to 32 fluid ounces per acre where heavy weed densities exist.

Refer to this map for location of the regions listed in the annual weed tables below.



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# ANNUAL WEEDS RATE TABLES 48

## ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

		Rate (Fluid Ounces Per Acre)					
Weed Species	Region	12	16	24	32	40	48
Maximum Height/Length							
Annoda, spurred		-	1"	2"	3"	5"	8"
Barley		-	18"	18"	+	-	-
Barnyardgrass	South	-	3"	5"	7"	9"	12"
	North	-	6"	9"	12"	-	-
Bittercress		-	12"	20"	-	-	-
Black nightshade		-	6"	12"	-	-	-
Bluegrass, annual		-	10"	-	-	-	-
Brassica, livehook		-	-	-	6"	-	-
Brome, downy		6"	-	-	-	-	-
Brome, Japanese		-	6"	-	24"	-	-
Browntop panicum		-	6"	8"	12"	-	24"
Buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"
Cheat		-	6"	20"	-	-	-
Chervil		-	20"	-	-	-	-
Chickweed		-	12"	18"	-	-	-
Cocklebur		-	12"	18"	24"	-	-
Copperleaf, hophornbeam		-	1"	2"	3"	4"	6"
Copperleaf, Virginia		-	1"	2"	3"	4"	6"
Corn		-	12"	20"	-	-	-
Corn speedwell		-	12"	-	-	-	-
Crabgrass		-	12"	18"	-	-	-
Dwarf dandelion		-	20"	-	-	-	-
Eastern manna grass		-	8"	12"	-	-	-
Eclipta		-	4"	8"	12"	-	-
Fall panicum	South	-	4"	6"	8"	12"	24"
	North	-	6"	12"	18"	-	-
Falsedandelion		-	20"	-	-	-	-
Falseflax, smallseed		-	12"	-	-	-	-

Fiddleneck		-	-	-	6"	-	12"
Field pennycress		-	6"	12"	-	-	-
Filaree		-	-	-	-	-	12"
Fleabane, annual		-	6"	20"	-	-	-
Fleabane, hairy		-	6"	-	-	-	-
( <i>Coryza bonariensis</i> )		-	-	-	-	-	-
Fleabane, rough		-	3"	6"	12"	-	-
Florida pusley		-	-	-	12"	-	-
Foxtail	South	-	8"	12"	20"	-	-
	North	18"	18"	-	-	-	-
Goatgrass, jointed		-	6"	-	-	-	-
Goosegrass		-	3"	5"	8"	-	18"
Grain sorghum (milo)		-	6"	12"	20"	-	-
Groundsel, common		-	6"	-	-	-	-
Hemp sesbania		-	-	2"	4"	6"	8"
Henbit		-	-	-	6"	-	20"
Horseweed/	South	-	-	12"	30"	-	-
Marestail		-	-	-	-	-	-
( <i>Coryza</i>	North	-	6"	12"	18"	-	-
<i>canadensis</i> )		-	-	-	-	-	-
Itchgrass		-	6"	12"	18"	-	-
Johnsongrass,	South	-	-	18"	-	-	-
seedling		-	-	-	-	-	-
	North	-	12"	18"	-	-	-
Junglerice		-	3"	5"	7"	9"	12"
Knotweed		-	3"	8"	12"	-	20"
Kochia <sup>1</sup>		-	3 to 6"	12"	-	-	-
Lambsquarters		-	6"	8"	12"	-	20"
Little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
Mayweed		-	-	2"	6"	12"	18"
Morningglory ( <i>Ipomoea</i> spp.)		-	-	2"	4"	-	6"
Mustard, blue		6"	-	-	-	-	-
Mustard, tansy		6"	12"	20"	-	-	-
Mustard, tumble		6"	-	-	-	-	-
Mustard, wild		6"	12"	18"	-	-	-

# ANNUAL WEEDS RATE TABLES 50

## ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

Weed Species	Region	Rate (Fluid Ounces Per Acre)					
		12	16	24	32	40	48
		Maximum Height/Length					
Oats		-	-	6"	20"	-	-
Pigweed		-	12"	18"	24"	-	-
Plains/Tickseed coreopsis		-	5"	12"	18"	-	-
Prickly lettuce		-	6"	12"	20"	-	-
Ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
Ragweed, giant		-	-	4"	6"	-	11"
Red rice		-	-	-	4"	-	-
Russian thistle		-	-	-	6"	-	-
Rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"	-	-	-
Ryegrass		-	-	-	6"	-	7"+
Sandbur, field		12"	-	-	-	-	-
Shattercane		-	12"	18"	-	-	-
Shepherdspurse		-	6"	12"	-	-	-
Sicklepod		-	-	2"	4"	-	8"
Signalgrass, broadleaf		-	3"	5"	7"	9"	12"
Smartweed, ladysthumb		-	4"	6"	8"	-	12"
Smartweed, Pennsylvania		-	4"	6"	8"	-	12"
Sowthistle, annual		-	-	-	6"	-	12"
Spanishneedles		-	-	-	8"	-	18"
Speedwell, purslane		-	12"	-	-	-	-
Sprangletop		-	6"	12"	20"	-	-
Spurge, prostrate		-	6"	12"	20"	-	-
Spurge, spotted		-	6"	12"	20"	-	-
Spurry, umbrella		6"	-	-	-	-	-
Stinkgrass		12"	-	-	-	-	-
Sunflower		-	12"	18"	-	-	-
Teaweed/ Prickly sida		-	1"	2"	3"	4"	6"

Texas panicum		-	6"	8"	12"	-	24"
Velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18"	-	-	-	-
Wheat	South	-	6"	30"	-	-	-
	North	-	18"	18"	-	-	-
Wheat, (overwintered)		-	6"	18"	-	-	-
Wild oats		-	12"	-	-	-	-
Witchgrass		-	12"	-	-	-	-
Woolly cupgrass		-	6"	12"	-	-	-
Yellow rocket		-	-	12"	20"	-	-

<sup>1</sup> Do not treat kochia in the button stage.

## ANNUAL WEEDS RATE TABLE, WEST REGION

Weed Species	Rate (Fluid Ounces Per Acre)					
	12	16	24	32	48	
	Maximum Height/Length					
Barley	12"	-	-	-	-	-
Barnyardgrass	6"	-	-	-	-	-
Bluegrass, annual	6"	-	-	-	-	-
Bluegrass, bulbous	-	6"	-	-	-	-
Brome, downy <sup>1</sup>	6"	-	-	-	-	-
Buttercup	-	12"	-	-	-	-
Cheat	-	6"	-	-	-	-
Chickweed	-	6"	-	-	-	-
Cocklebur	-	12"	-	-	-	-
Corn	-	6"	-	-	-	-
Crabgrass	-	12"	-	-	-	-
Dwarddandelion	-	12"	-	-	-	-
Fall panicum	-	12"	-	-	-	-
Falsellax, smallseed	-	12"	-	-	-	-
Field pennycress	-	6"	-	-	-	-
Filaree	-	-	-	-	-	12"
Fleabane, hairy (Conyza bonariensis)	-	6"	-	-	-	-

# ANNUAL WEEDS RATE TABLES 51

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## ANNUAL WEEDS RATE TABLE, WEST REGION

Weed Species	Rate (Fluid Ounces Per Acre)				
	12	16	24	32	48
	Maximum Height/Length				
Florida pusley	-	-	-	12"	-
Foxtail	(8 fl. oz. for up to 12")				
Goatgrass, jointed	-	6"	-	-	-
Groundsel, common	-	6"	-	-	-
Henbit	-	6"	-	-	-
Horseweed/Marestail ( <i>Conyza canadensis</i> )	-	12"	-	-	-
Johnsongrass, seedling	-	6"	-	-	-
Lambsquarters	-	6"	-	-	-
London rocket	-	2"	-	-	-
Morningglory ( <i>Ipomoea</i> spp.)	6"	-	-	-	-
Mustard, blue	6"	-	-	-	-
Mustard, tansy	6"	-	-	-	-
Mustard, tumble	6"	-	-	-	-
Mustard, wild	-	12"	-	-	-
Pigweed	12"	-	-	-	-
Rye	-	6"	-	-	-
Ryegrass, Italian	12"	-	-	-	-
Sandbur, field	12"	-	-	-	-
Shattercane	-	6"	-	-	-
Shepherdspurse	-	6"	-	-	-
Sowthistle, annual	-	6"	-	-	-
Spurge, annual	12"	-	-	-	-
Stinkgrass	-	12"	-	-	-
Texas panicum	18"	-	-	-	-
Wheat	-	12"	-	-	-
Wild oats	-	12"	-	-	-
Witchgrass	-	12"	-	-	-

<sup>1</sup> For control of Downy brome in no-till systems, use 16 fluid ounces per acre.

## 10.1 Annual Weeds—10 to 40 Gallons Per Acre in Water

Apply 1 to 1.5 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications.

## 10.2 Annual Weeds—Tank Mixtures with 2,4-D or Banvel

12 to 16 fluid ounces of this product plus 0.25 pounds a.i. of Banvel or 0.5 pounds a.i. of 2,4-D per acre will control the following weeds with the maximum height or length indicated: 6" — prickly lettuce, marestail/horseweed (*Conyza canadensis*), morningglory (*Ipomoea* spp.), kochia (Banvel only); 12" — cocklebur, lambsquarters, pigweed, Russian thistle.

16 fluid ounces of this product plus 0.5 pounds a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

12 fluid ounces of this product plus 0.25 pounds a.i. of Banvel or 0.5 pounds a.i. of 2,4-D per acre will control foxtail up to 18".

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

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# **11.0 PERENNIAL WEEDS RATE TABLE** **Alphabetically by Species**

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

## **Spray Solution**

Desired	Amount of Roundup® Ultra					
Volume	½%	1%	1½%	2%	5%	10%
1 Gal	½ oz	1½ oz	2 oz	2½ oz	6½ oz	13 oz
25 Gal	1 pt	1 qt	1½ qt	2 qt	5 qt	10 qt
100 Gal	2 qt	1 gal	1½ gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Alfalfa	1	3-10	2%

Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed	4	3-20	1.5%
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Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.

Anise (fennel)	—	—	1-2%
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Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Bahiagrass	3-5	3-20	2%
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Apply when most plants have reached the early head stage.

Bentgrass	1.5	10-20	2%
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For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

Bermudagrass	3-5	3-20	2%
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For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

Bermudagrass, water (knotgrass)	1-1.5	5-10	2%
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Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water bermudagrass.

Bindweed, field	0.5-5	3-20	2%
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Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

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# PERENNIAL WEEDS RATE TABLE 56

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Mixed % Solution
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For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. Do not apply by air.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bluesweed, Texas 3-5 3-40 2%

Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Brackenfern 3-4 3-40 1-1.5%

Apply to fully expanded fronds which are at least 18 inches long.

Bromegrass, smooth 1-2 3-40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage, woolly-leaf — 3-20 2%

For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed 2-3 3-40 2%

For best results, apply when most plants have reached the boot-to-head stage of growth.

Cattail 3-5 3-40 2%

Apply when most plants have reached the early head stage.

Clover, red, white 3-5 3-20 2%

Apply when most plants have reached the early bud stage.

Cogongrass 3-5 10-40 2%

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

# PERENNIAL WEEDS RATE TABLE 57

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# PERENNIAL WEEDS RATE TABLE 58

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Dallisgrass 3-5 3-20 2%

Apply when most plants have reached the early head stage.

Dandelion 3-5 3-40 2%

Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.

Dock, curly 3-5 3-40 2%

Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.

Dogbane, hemp 4 3-40 2%

Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue (except tall) 3-5 3-20 2%

Apply when most plants have reached the early head stage.

Fescue, tall 1-3 3-40 2%

Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development.

Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass 3 3-40 1%

Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.

Horsenettle 3-5 3-20 2%

Apply when most plants have reached the early bud stage.

Horseradish 4 3-40 2%

Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Iceplant — — 1.5-2%

Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.

Jerusalem artichoke 3-5 3-20 2%

Apply when most plants are in the early bud stage.

Johnsongrass 0.5-3 3-40 1%

In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot treatment (partial control or suppression)—Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

# PERENNIAL WEEDS RATE TABLE 59

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# PERENNIAL WEEDS RATE TABLE 60

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Kikuyugrass	2-3	3-40	2%
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Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth). Allow 3 or more days after application before tillage.

Knapweed	4	3-40	2%
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Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Lantana	—	—	1-1.25%
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Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Lespedeza	3-5	3-20	2%
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Apply when most plants have reached the early bud stage.

Milkweed, common	3	3-40	2%
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Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestem	1-2	3-40	2%
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Use 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mullein, common	3-5	3-20	2%
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Apply when most plants are in the early bud stage.

Napiergrass	3-5	3-20	2%
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Apply when most plants are in the early head stage.

Nightshade, silverleaf	2	3-10	2%
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Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge, purple, yellow	0.5-3	3-40	1-2%
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Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardgrass	1-2	3-40	2%
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Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till corn: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass	—	—	1.5-2%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

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# PERENNIAL WEEDS RATE TABLE 62

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
Paragrass	3-5	3-20	2%

Apply when most plants are in the early head stage.

Phragmites	3-5	10-40	1-2%
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For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Poison hemlock	—	—	1-2%
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Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Quackgrass	1-3	3-40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this product. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

Redvine	0.75-2	5-10	2%
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For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Reed, giant	—	—	2%
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Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial	1-3	3-40	1%
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In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

Smartweed, swamp	3-5	3-40	2%
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Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.

Spurge, leafy	—	3-10	2%
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For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellow	2	10-40	2%
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Best results are obtained when applications are made during the rosette, bolting and early flower stages.

Sweet potato, wild	—	—	2%
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Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke	—	—	2%
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Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

# PERENNIAL WEEDS RATE TABLE 63

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# PERENNIAL WEEDS RATE TABLE 64

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Thistle, Canada	2-3	3-40	2%
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Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression, apply 1 quart of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Timothy	2-3	3-40	2%
---------	-----	------	----

For best results, apply when most plants have reached the boot-to-head stage of growth.

Torpedograss	4-5	3-40	2%
--------------	-----	------	----

For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.

Trumpet creeper	2	5-10	2%
-----------------	---	------	----

Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Vaseygrass	3-5	3-20	2%
------------	-----	------	----

Apply when most plants are in the early head stage.

Velvetgrass	3-5	3-20	2%
-------------	-----	------	----

Apply when most plants are in the early head stage.

Wheatgrass, western	2-3	3-40	2%
---------------------	-----	------	----

For best results, apply when most plants have reached the boot-to-head stage of growth.

# 12.0 WOODY BRUSH AND TREES RATE TABLE Alphabetically by Species

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
--------------	-------------	--------------------	----------------------

Alder	3-4	3-40	1-1.5%
-------	-----	------	--------

For control

Ash	2-5	3-40	1-2%
-----	-----	------	------

Partial control

Aspen, quaking	2-3	3-40	1-1.5%
----------------	-----	------	--------

For control

# WOODY BRUSH AND TREES 65

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# WOODY BRUSH AND TREES 66

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
--------------	-------------	--------------------	----------------------

Bearmat (Bearclover) 2-5 3-40 1-2%

Partial control  
Beech 2-5 3-40 1-2%

Partial control  
Birch 2 3-40 1%

For control  
Blackberry 3-4 10-40 1-1.5%

For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

Blackgum 2-5 3-40 1-2%

For control  
Bracken 2-5 3-40 1-2%

For control  
Broom,  
French, Scotch — — 1.5-2%

For control  
Buckwheat,  
California — — 1-2%

For partial control. Thorough coverage of foliage is necessary for best results.

Cascara 2-5 3-40 1-2%

Partial control  
Catsclaw — — 1-1.5%

Partial control

Ceanothus 2-5 3-40 1-2%

Partial control  
Chamise — — 1%

For control. Thorough coverage of foliage is necessary for best results.

Cherry, bitter,  
black, pin 2-3 3-40 1-1.5%

For control  
Coyote brush — — 1.5-2%

For control. Apply when at least 50 percent of the new leaves are fully developed.

Dogwood 2-5 3-40 1-2%

Partial control  
Elderberry 2 3-40 1%

For control  
Elm 2-5 3-40 1-2%

Partial control  
Eucalyptus — — 2%

For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.

Florida holly (Brazilian  
Peppertree) 2-5 3-40 1-2%

Partial control  
Gorse 2-5 3-40 1-2%

Partial control  
Hasardia — — 1-2%

Partial control. Thorough coverage of foliage is necessary for best results.

Hawthorn 2-3 3-40 1-1.5%

For control

# WOODY BRUSH AND TREES 67

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# WOODY BRUSH AND TREES 68

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
--------------	-------------	--------------------	----------------------

Hazel	2	3-40	1%
For control			
Hickory	2-5	3-40	1-2%
Partial control			
Honeysuckle	3-4	3-40	1-1.5%
For control			
Hornbeam, American	2-5	3-40	1-2%
Partial control			
Kudzu	4	3-40	2%
For control. Repeat applications may be required to maintain control.			
Locust, black	2-4	3-40	1-2%
Partial control			
Madrone resprouts	—	—	2%
Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.			
Manzanita	2-5	3-40	1-2%
Partial control			
Maple, red	2-4	3-40	1-1.5%
For control, apply a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre.			
Maple, sugar	—	—	1-1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
Monkey flower	—	—	1-2%
Partial control. Thorough coverage of foliage is necessary for best results.			
Oak, black, white	2-4	3-40	1-2%
Partial control			

Oak, post	3-4	3-40	1-1.5%
For control			
Oak, northern, pin	—	—	1-1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed			
Oak, southern red	2-3	3-40	1-1.5%
For control			
Persimmon	2-5	3-40	1-2%
Partial control			
Pine	2-5	3-40	1-2%
For control			
Poison ivy/ Poison oak	4-5	3-40	2%
For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.			
Poplar, yellow	2-5	3-40	1-2%
Partial control			
Redbud, eastern	2-5	3-40	1-2%
For control			
Rose, multiflora	2	3-40	1%
For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.			
Russian olive	2-5	3-40	1-2%
Partial control			
Sage, black	—	—	1%
For control. Thorough coverage of foliage is necessary for best results.			
Sage, white	2-5	3-40	1-2%
Partial control			

# WOODY BRUSH AND TREES 69

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# WOODY BRUSH AND TREES 70

Weed Species	Rate (QT/A)	Water Volume (GPA)	Hand-Held % Solution
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Sage brush, California — — 1%

For control. Thorough coverage of foliage is necessary for best results.

Salmonberry 2 3-40 1%

For control

Salt-cedar 2-5 3-40 1-2%

For control

Sassaparilla 2-5 3-40 1-2%

Partial control

Sourwood 2-5 3-40 1-2%

Partial control

Sumac; poison, smooth, winged 2-4 3-40 1-2%

Partial control

Sweetgum 2-3 3-40 1-1.5%

For control

Swordfern 2-5 3-40 1-2%

Partial control

Tallowtree, Chinese — — 1%

For control. Thorough coverage of foliage is necessary for best results.

Tan oak resprouts — — 2%

For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.

Thimbleberry 2 3-40 1%

For control

Tobacco, tree — — 1-2%

Partial control

Trumpet creeper 2-3 3-40 1-1.5%

For control

Vine maple 2-5 3-40 1-2%

Partial control

Virginia creeper 2-5 3-40 1-2%

For control

Waxmyrtle, southern 2-5 3-40 1-2%

Partial control

Willow 3 3-40 1%

For control

## 13.0 LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are out-

## LIMIT OF WARRANTY

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## LIMIT OF WARRANTY 72

side the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

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™ DEF is a trademark of Mobay Chemical Company.

## LIMIT OF WARRANTY 73

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335 -

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337

This product is protected by U.S. Patent No. 4,405,531.  
Other patents pending.  
No license granted under any non-U.S. patent(s).  
EPA Reg. No. 524-475

---

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

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©MONSANTO COMPANY 1996

This product is protected by U.S. Patent No. 4,405,531.  
Other patents pending.  
No license granted under any non-U.S. patent(s).  
EPA Reg. No. 524-475

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In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI, 63

21137U2-2/53

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# Monsanto

RECD EPA/OLP/DP02

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

'96 JUN 21 A11 30

June 20, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Pro Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Aerial Application in California**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Pro herbicide for your files. This label, which provides directions for aerial applications in California, was approved by the Agency on April 1, 1996. This label will be distributed in California only.

Enclosed are five (5) copies of the label (version 21136U1-13).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243134

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Pro Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Aerial application in California

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 781-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date June 20, 1996	
6. Date Application Received (Stamped) JUN 21 AM 11:31 REC'D EPA/CPP/DPD2 340			

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Pro herbicide and this supplement.

NOT REVIEWED  
In Accordance with PR Notice 8842.  
Based on Draft Labeling Dated 4/1/96



36 JUN 21 AM 1:31

RECD EPA/OPP/DPD2

EPA Reg. No. 524-475

### FOR AERIAL APPLICATION IN CALIFORNIA ONLY

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label should be in the possession of the user at the time of the herbicide application.

See the label booklet for specific recommendations on the use of this product.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF THE SPRAY WITH FOLIAGE, GREEN STEMS, OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION, SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

When applied as recommended under the conditions described, this product controls annual and perennial weeds and woody brush and trees listed in

the label booklet. See the Weeds Controlled section of the label booklet for rate recommendations.

Aerial applications of this product are allowed in the following situations:

1. Prior to the emergence or transplanting of labeled crops
2. Aid to burning for establishment and maintenance of fuel breaks
3. Establishing fire perimeters and black lines
4. Aid to prescribed burning
5. Along fire roads
6. Range conversion
7. Habitat restoration and management
8. Wildlife food plots

#### AERIAL APPLICATIONS

Apply 1 to 5 quarts of this product in 5 to 15 gallons of water per acre using aerial (helicopter only) applications.

To broaden the spectrum of control, Garlon™ 4 may be tank mixed with this product at the rate of 0.5 to 2 quarts per acre. The rate of Garlon should not exceed 1/2 the rate of this product (e.g. 1 quart of Garlon to 2 quarts of this product) for best results.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**AVOID DRIFT - DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT**

# Monsanto

RECD EPA/OPP/DPD1

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

96 MAY 17 A4:06

MAY 21 REC'D  
BPPD

May 15, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Use in Dormant Rangeland**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows use of this product in dormant rangeland, was approved by the Agency on April 1, 1996.

Enclosed are five (5) copies of the label (version 21137U1-29).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243125

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Use in dormant rangeland

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Metal Plastic Glass Paper Other (Specify) _____		
Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 788-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received MAY 17 1996 (Stamp) EPA/PP/DPD2 344
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date May 15, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.B1 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

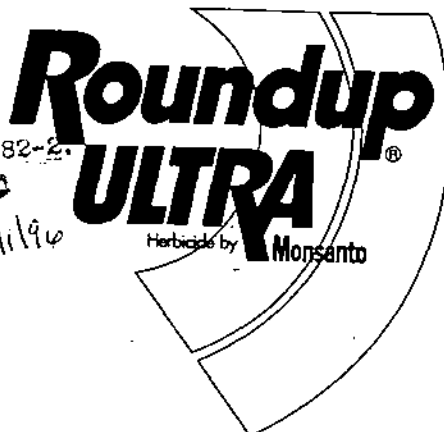
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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.

NOT REVIEWED  
In Accordance with PR Notice 82-2.  
Based on Draft Labeling Dated  
4/1/96



EPA Reg. No. 524-475

### FOR USE IN DORMANT RANGELAND

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

#### RECOMMENDATIONS

This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland.

Apply 8 to 16 fluid ounces of this product per acre in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass, are still truly dormant.

Slight discoloration of the desirable grasses may occur, but they will re-green and regrow under moist soil conditions as effects of this product wear off.

Do not use ammonium sulfate when spraying dormant rangeland grasses with this product.

Do not make more than one application per year.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U1-29

4/1/96

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 19 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Ground & Aerial Application to Brush and  
Chaparral In California)  
EPA Registration No.524-475  
Your Application Dated April 15, 1996

The labeling referred to above submitted in connection with registration  
under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is  
acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	7505C						
SURNAME	V.K. Lutter						
DATE	6/18/96						

## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup PRO and this supplement.

ROUNDUP ® PRO  
Herbicide by Monsanto

EPA Reg. No. 524-475

**ACCEPTED**

JUN 19 1996

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

For ground and aerial application to brush and chaparral in California only

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup PRO herbicide for essential product performance information.

### RECOMMENDATIONS

This product may be used for aid to burning treatments to establish and maintain fuel breaks, establishing fire perimeters and black lines, aid to prescribed burning, along fire roads and rights-of-way, range conversion and site preparation in forestry.

Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are

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obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

Apply 2 quarts of this product per acre for partial control of the following emerged brush and chaparral species:

Ceanothus  
Chamise  
Sage  
Scrub oak

Ground applications should be applied in 10 to 40 gallons of spray solution per acre. Aerial applications (helicopter only) should be applied in 5 to 15 gallons of spray solution per acre.

Avoid direct application to any body of water.

REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION IN CALIFORNIA FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup PRO herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

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SUBMITTER ON REVIEW RECORD									
1. TO BE PUBLISHED OR NECESSARY			4. PETITION NO.			3. RECEIVED BY TEAM			
<input type="checkbox"/> YES <input type="checkbox"/> NO						NO. DAY YR			
6. METHOD OF SUPPORT			7. PRODUCT MANAGER			8. PROJECTED RETURN			
<input type="checkbox"/> 1A <input type="checkbox"/> 1B <input type="checkbox"/> 1C						NO. DAY YR			
9. DATE FILED		10. DATE PUBLISHED		11. ACTION TYPE		12. OUTGOING DATE			
6/12/90				<i>Rendup ultra + Rendup Pro for use for aerial ground application for Bush 345</i>					
NO.	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER	COM. MENT CODE	DATE REVIEW COMPLETED				
					NO.	DAY	YR		
A	REVIEWABILITY TEAM								
B	PRODUCT MANAGER TEAM EFFICACY REVIEW								
C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW								
D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW								
E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW								
F	PRODUCT MANAGER			UICW MAC	016	112	916		
G	INTERAGENCY REFERRAL								
H	COST-BENEFIT REVIEW								
I	PUBLIC COMMENTS REVIEW								
J	EEB BRANCH INSECTICIDE EFFICACY								
K	EEB BRANCH HERBICIDE EFFICACY								
L	EEB BRANCH FUNGICIDE EFFICACY								
M	EEB BRANCH RODENTICIDE EFFICACY								
N	EEB BRANCH DISINFECTANT EFFICACY								
O	CHEMISTRY BRANCH RESIDUE CHEMISTRY								
P	EEB BRANCH ENVIRONMENTAL CHEMISTRY								
Q	TOXICOLOGY BRANCH HUMAN SAFETY								
R	EEB BRANCH ENVIRONMENTAL SAFETY								
S									
T									
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				CODE	



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

244188

### Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide/ Roundup® Pro Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental labels for ground and aerial application to brush and chaparral in California

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
* Certification must be submitted				<input type="checkbox"/> Plastic	
	If "Yes" Unit Packaging wgt.	No. per container.	If "Yes" Package wgt.	<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input checked="" type="checkbox"/> Other vinyl glued		

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)     351
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date <i>April 15, 1996</i>	



## Certification with Respect to Citation of Data

**Applicant's Name and Address**

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

**EPA File Symbol/Registration Number**

524-475

**Product Name** Roundup® Ultra Herbicide;  
Roundup® PRO Herbicide

**Date of Application**

April 15, 1996

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)

2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,

☒ I am the original submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*

3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

a. ☒ I am the original data submitter\*; or

☐ I have obtained the written permission of the original data submitter to cite that study\*; or

b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)

☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)

☐ Those companies that have submitted the studies which I have cited (Selective method\*).

\* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature 	Name and Title Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	Date April 15, 1996
---------------	--	------------------------

**General Offer to Pay:** I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature	Name and Title	Date 352
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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 15, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® ULTRA Herbicide (EPA Reg. No. 524-475)**  
**Roundup® PRO Herbicide (EPA Reg. No. 524-475)**  
**Submission of Supplemental Labels for Ground and Aerial**  
**Application to Brush and Chaparral in California**

Dear Sir:

Monsanto is submitting supplemental labels for use of Roundup ULTRA herbicide and Roundup PRO herbicide (EPA Reg. No. 524-475) for ground and aerial application to brush and chaparral in California only. A similar label was previously approved by the Agency for Roundup herbicide (EPA Reg. No. 524-445) on April 2, 1992.

Five (5) copies of the proposed supplemental label for each brand name are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

35?

# Monsanto

RECD EPA/OPP/DP01

96 MAY 17 A4 06

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 15, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Hooded Sprayers in Corn (All)**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. An earlier version of this label, which allows use of this product with hooded sprayers in corn (all), was approved by the Agency on November 7, 1995. Monsanto notified the Agency of a revision to this label on February 19, 1996.

Enclosed are five (5) copies of the label (version 21137U2-11).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

354-





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243124

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(ii), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 11/7/95; 2/19/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Hooded sprayers in corn (all).

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
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2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date May 15, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

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**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too" reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



EPA Reg. No. 524-475

NOT REVIEWED  
In Accordance with FR Notice 82-2.  
Based on Draft Labeling Dated

2/19/96

### HOODED SPRAYERS ON CORN (ALL)

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

#### RECOMMENDATIONS

This product may be used through hooded sprayers for weed control between the rows of corn (all), including field corn, sweet corn and popcorn. Only hooded sprayers that completely enclose the spray pattern may be used.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be

operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

When applying to corn that is grown on raised beds, ensure that the hood is designed to completely enclose the spray solution. If necessary, extend the front and rear flaps of the hoods to reach the ground in deep furrows. Follow these requirements:

The spray hoods must be operated on the ground or skimming across the ground.

Do not apply more than 1 quart of this product per acre per application.

Corn must be at least 12 inches tall, measured without extending leaves.

Leave at least an 8 inch untreated strip over the drill row. For example, if the crop row width is 38 inches, the maximum width of the spray hood should be 30 inches.

Maximum tractor speed: 5 mph.

Maximum wind speed: 10 mph.

Use low-drift nozzles.

Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop. Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated. Droplets, mist, foam or splatter of the herbicide solution may contact the crop and cause discoloration, stunting or destruction.

Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

For specific rates of application and instructions for control of various annual and perennial weeds, see the Weed Control tables in the label booklet for Roundup Ultra herbicide.

Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers.

Do not apply more than 3 quarts of this product per acre per year for hooded sprayer applications.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U2-11

2/19/96

357

# Monsanto

96 MAY 17 A4 06

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 15, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Use in Poplar Production**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows use of this product in poplar (*populus spp.*) production, was approved by the Agency on April 1, 1996.

Enclosed are five (5) copies of the label (version 21137U1-28).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243126

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Use in poplar production

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date May 15, 1996	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamp) 17 AG 39 359	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "General label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



EPA Reg. No. 524-475

NOT REVIEWED  
In Accordance with PR Notice 82-1  
Based on Data Submitting Date

4/1/96

### ROUNDUP ULTRA HERBICIDE FOR USE IN POPLAR (*Populus* spp.) PRODUCTION

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup® Ultra herbicide label booklet for essential product performance information.

#### PREPLANT

This product is recommended for use prior to planting *Populus* spp. This includes, but is not limited to, hybrid poplars and hybrid cottonwoods.

See the Roundup Ultra herbicide label booklet for specific rates for the weeds being controlled.

#### IN CROP USES

##### DIRECTED SPRAYS

Use a 2 percent spray solution as a spray-to-wet application for the control of undesirable woody brush and

trees. To control herbaceous weeds, use a 1 to 2 percent solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of the *Populus* spp.

##### WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Ultra herbicide solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

**AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION.** Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

**Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Ultra herbicide before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.**

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U1-28 4/1/96

361-



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

244190

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra RT Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input checked="" type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**NOTIFICATION**  
APR 24 1996

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification: Roundup Ultra RT Herbicide - Weed control prior to the emergence of sunflowers

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
* Notification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (include Area Code) (202) 783-2460
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)  <div style="font-size: 2em; transform: rotate(-15deg); position: absolute; right: 0; bottom: 0;">362</div>
2. Signature 	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date April 16, 1996	



## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

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6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me too," reregistration, etc.

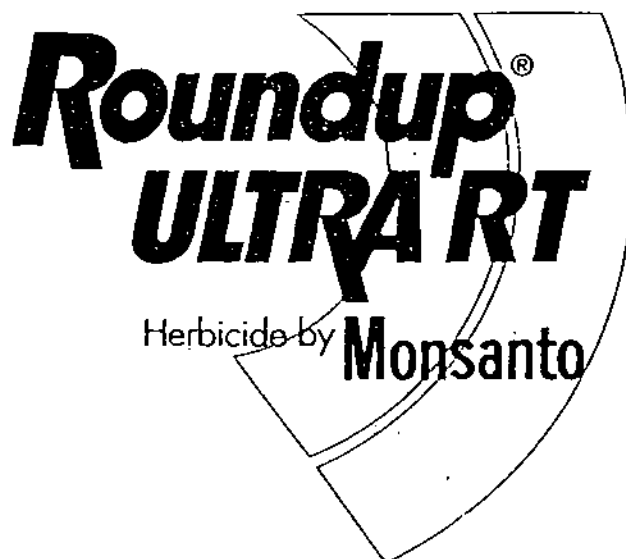
- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



EPA Reg. No. 524-475

### FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUNFLOWERS

Keep out of reach of children.

### **CAUTION!**

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

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®Roundup is a registered trademark of Monsanto Company.

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#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the

label booklet for Roundup® Ultra RT herbicide for essential product performance information.

#### **RECOMMENDATIONS**

This product controls annual and perennial weeds listed on this label prior to the emergence of sunflowers. Applications may be made before, during or after planting.

Apply up to 32 fluid ounces of this product per acre. Make only one preemergence application of this product per year.

Do not feed or graze sunflower forage following application of this product.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167  
21138U1-4

3/25/96  
364

# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

April 16, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **NOTIFICATION:**  
**Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)**  
**Weed Control Prior to the Emergence of Sunflowers**

Dear Sir:

On March 25, 1996, the Agency approved a supplemental label for use of Roundup Ultra herbicide prior to the emergence of sunflowers. At this time, Monsanto is notifying the Agency that we are extending this use to Roundup Ultra RT herbicide, which is registered as an alternate to Roundup Ultra herbicide under EPA Reg. No. 524-475.

Five (5) copies of the label (version 21138U1-4) are enclosed.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

365

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 19 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Pro Herbicide (Ground & Aerial Application to Brush and  
Chaparral In California)  
EPA Registration No. 524-475  
Your Application Dated April 15, 1996

The labeling referred to above submitted in connection with registration  
under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is  
acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES

SYMBOL	7505C							
SURNAME	V. Waller							
DATE	6/18/96							

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO : 1985-467-853

# SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ROUNDUP ® ULTRA  
Herbicide by Monsanto

EPA Reg. No. 524-475

**ACCEPTED**

JUN 19 1996

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 524-475

For ground and aerial application to brush and chaparral in California only

Keep out of reach of children.

## CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

## RECOMMENDATIONS

This product may be used for aid to burning treatments to establish and maintain fuel breaks, establishing fire perimeters and black lines, aid to prescribed burning, along fire roads and rights-of-way, range conversion and site preparation in forestry.

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Apply this product as a broadcast spray when plants are actively growing for partial control of undesirable vegetation listed on this label. Best results are obtained when application is made in the spring to early summer when brush species are at a high moisture content and flowering.

Apply 2 quarts of this product per acre for partial control of the following emerged brush and chaparral species:

Ceanothus  
Chamise  
Sage  
Scrub oak

Ground applications should be applied in 10 to 40 gallons of spray solution per acre. Aerial applications (helicopter only) should be applied in 5 to 15 gallons of spray solution per acre.

Avoid direct application to any body of water.

REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATION IN CALIFORNIA FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

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Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

---

© Monsanto Company 1996

MAP

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 19 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Alternate CSF)  
EPA Registration No. 524-475  
Your Application Dated February 16, 1996

The scientific review and evaluation of the requested alternate confidential statement of formula have been completed. The requested CSF is acceptable our records are been modified accordingly.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES

SYMBOL	7505C							
SURNAME	UKW/lls							
DATE	6/18/96							

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO : 1985-447-857

DATE OUT: April 17, 1996

SUBJECT: EP [x] MP [ ] PRODUCT CHEMISTRY REVIEW  
DP BARCODE No.: D224233 REG./File Symbol No.: 524-475  
PRODUCT NAME: MON 77360 / (MON-65005) Herbicide  
COMPANY: Monsanto Agricultural Co.

TO: Vickie Walters, PM Team 25  
Fungicide-Herbicide Branch/RD (7505C)

FROM: <sup>as</sup> Alfred Smith, Chemist  
Product Chemistry Review Section  
Registration Support Branch/RD (7505W)

THRU: Harold Podall, Section Head  
Product Chemistry Review Section  
Registration Support Branch/RD (7505W) <sup>HP 4/16/96</sup>

SUMMARY OF FINDINGS:

The Alternate Formulation (CSF, EPA Form 8570-4, dated 02/16/96) meets the requirements of 40 CFR 152.43 and is acceptable.

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United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

234745

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. <u>                    </u> Product Name <u>                    </u> <i>need 1 copy of everything</i>	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated <u>                    </u>
<input type="checkbox"/> Resubmission in response to Agency letter dated <u>                    </u>	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of alternate Confidential Statement of Formula  
Notification of additional brand name: MON 77360 Herbicide

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
Certification must be submitted				<input type="checkbox"/> Plastic	
	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) <u>                    </u>	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other <u>                    </u>		

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment, or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs	371
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date <i>Feb. 16, 1996</i>	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 19 1996

Dr. Sheila A. Schuette  
Monsanto Company  
700 14th Street, N.W. Suite #1100  
Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Pro (Amend Non-Crop Label-Grazing Restriction)  
EPA Registration No.524-475  
Your Application Dated June 13, 1995

The scientific review and evaluation of the subject submission have been completed. The proposed grazing restriction are unacceptable at this time for the following reason,

1. No information is available on unlimited glyphosate application rates with a PHI of eight weeks. An upper limit for seasonal application rate which is represented in existing residue data trials must be proposed or additional trials may be necessary.
2. We suggest that the statement "For any application rate of this product where livestock can be restricted from treated area for 8 weeks" be modified to read "For any application rate of this product, up to the maximum seasonal rate of 10.6 quarts per acre per year, where livestock can be restricted from treated area for 8 weeks."

Further action will await submission of revised label or additional field trials.

Sincerely,

Robert J. Taylor  
Product Manager 25  
Fungicide-Herbicide Branch  
Registration Division (7505C)

CONCURRENCES							
SYMBOL	75052						
SURNAME	UKelly						
DATE	6/18/96						

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

U.S. GPO : 1985-467-853



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

MAY 14 1995

MEMORANDUM

SUBJECT: ID#000524-00475 Addition of Brandname Roundup® PRO Herbicide for Non-Crop Uses. New Glyphosate Label. Chemical# 103601. DP Barcode: D217898. CBTS#: 15985. MRID#: None.

ID#000524-00326 Label Change to Accord® Adding Glyphosate Uses on Pasture, Range, and Industrial Sites in Certain States. Chemical# 103601. DP Barcode: D217990. CBTS#: 15981. MRID#: None.

ID#000524-00445 Label Change to Roundup® Removing Grazing Restrictions from Uses on Pasture, Range, and Industrial Sites in Certain States. Chemical# 103601. DP Barcode: D217991. CBTS#: 15986. MRID#: None.

FROM: William D. Cutchin, Chemist  
Tolerance Petition Team I  
Chemistry Branch I: Tolerance Support  
Health Effects Division (7509C)

*William D. Cutchin*

THROUGH: Ed Zager, Acting Chief  
Chemistry Branch I: Tolerance Support  
Health Effects Division (7509C)

*Edward Zager*

TO: Debbie McCall, Acting Section Head  
Registration Section  
Risk Characterization and Analysis Branch  
Health Effects Division (7509C)

Monsanto Agricultural Co. intends to market the glyphosate (N-phosphonomethyl glycine) herbicide MON 65005 (EPA Reg. No. 524-475) under the new brandname Roundup® PRO for non-crop and residential uses only. Complete directions for the use of Roundup® PRO are included in the submission. The registrant requests the new product be labeled with grazing restrictions different from current labels. The registrant also requests changes for the glyphosate products Roundup® (EPA Reg. No. 524-445) and Accord® (EPA Reg. No.

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524-326) reflecting a new lower application rate on pasture, rangeland, and industrial sites in certain states.

Tolerances for the combined residues of glyphosate and its metabolite aminomethylphosphonic acid (AMPA) exist on many members of the grass forage, fodder, and hay crop group at 200 ppm (40 CFR § 180.364 (a)). Combined glyphosate and AMPA tolerances are established on kidney and liver of cattle, poultry, goats, hogs, and sheep at 0.5 ppm (40 CFR § 180.364 (b)). Food additive and feed additive tolerances are established under 40 CFR §185.3500 and §186.3500, respectively, for the combined residues of glyphosate and AMPA ranging from imported olives molasses at 0.1 ppm to soybean hulls at 100 ppm.

The Product and Residue Chemistry Chapters for the Glyphosate Reregistration Eligibility Decision Document (DP Barcode: D183202, CBRS#: 10665) were completed, 10/27/92. The HED Metabolism Committee has determined that AMPA does not need to be regulated and should be dropped from the tolerance expression in the future (Memo, HED Metabolism Committee, R. Perfetti, 8/19/92).

#### Conclusions

1. The residue levels for the limited application rates requested in the Roundup® PRO label are expected to be well below the established tolerances for glyphosate. However, no information on unlimited glyphosate application rates with a PHI of eight weeks is available. The petitioner must propose an upper limit for the seasonal application rate which is represented in existing residue data trials, or additional trials may be necessary.

2a. The residue levels associated with the proposed use patterns in the supplemental label requests for Roundup® and Accord® are expected to be well below the established tolerances for residues of glyphosate in/on grass forage, fodder, and hay.

2b. Amending the registered Roundup® and Accord® label to permit the requested uses will not affect the adequacy of the established glyphosate tolerances in animal commodities.

#### Recommendations

CBTS recommends against the requested label changes for Roundup® PRO for the reasons in conclusion 1.

CBTS recommends for the requested label changes for Roundup® (EPA Reg. No. 524-445), and Accord® (EPA Reg. No. 524-326).

A DRES run is not indicated for this action.

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### Detailed Considerations

#### Proposed Use

The petitioner proposes that their new product, Roundup® PRO (41% ai), be registered for use on non-crop and residential uses only. One requested use pattern is for 1 to 2 qts formulation/A applied to up to 50% of a grazing area. Another use pattern is for an application of up to 1 qt formulation/A, where an entire area may be treated. For a third use pattern, the petitioner also requests no restrictions for any application rate of the product where livestock can be restricted from the treated area for 8 weeks.

The petitioner also proposes no grazing restrictions on the Accord® and Roundup® labels in industrial, rangeland, and pasture sites for a 16 oz formulation/A broadcast application in Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, South Dakota, Oregon, Utah, Washington, and Wyoming.

#### Magnitude of Residue

No new residue data was submitted with this petition. The current label for Accord® (EPA Reg. No. 524-326), accepted 8/11/94 and included in the submission, has no restrictions for spot treatments, spray to wet, low volume directed, tree injection, frill application, and cut stump applications. The label lists the following restrictions on current broadcast applications:

"For application rates of greater than 6 but not to exceed 10 quarts per acre, no more than 15 percent of the available grazing area may be treated."

"For application rates that do not exceed 6 quarts per acre, no more than 25 percent of the available grazing area may be treated."

"These recommendations do not apply to rangeland outside of utility rights-of-way."

These current use patterns have been calculated to produce as much as 1306 ppm glyphosate residues in the treated areas of pasture or rangelands (eg. 10 qt/A, 15% area treated, 0 day PHI). However, the actual glyphosate residue for the entire acre would be 196 ppm,  $1306 \text{ ppm} \times 0.15$  (DP Barcode D193761, CBTS#12315, 2/28/94).

The limited applications for Roundup® PRO, up to 2 qt formulation per acre, would be at least 5x lower overall than the maximum use on the current label. The proposed new use for Roundup® and Accord®, 16 oz formulation per acre, would be 20x lower than the maximum use on the current label. The limited applications for Roundup® PRO and the new use for Roundup® and Accord® would not produce residues in excess of existing tolerances.

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While the limited use patterns for Roundup® PRO and the new use patterns for Roundup® and Accord® will not produce residues in grasses above existing tolerances, no such determination can be made with the unlimited application rate and 8 week PHI use proposed for Roundup® PRO. The amount of residue on a RAC or in secondary residues in animal commodities cannot be determined with that use pattern from existing residue data. The petitioner needs to propose an upper limit on the amount of formulation which may be applied. The upper limit must be represented in existing residue data trials or additional trials may be necessary.

#### Meat, Milk, Poultry, and Eggs

The current use patterns have been calculated to produce as much as 1306 ppm glyphosate residues in pasture or rangelands (eg. 10 qt/A, 15% area treated, 0 day PHI). However, the actual glyphosate residue for a treated acre would be 196 ppm,  $1306 \text{ ppm} \times 0.15$  (DP Barcode D193761, CBTS#12315, 2/28/94). Since livestock would feed upon the whole area, not just the treated portions, the actual glyphosate residue in forage from a treated acre would be 196 ppm (DP Barcode D193761, CBTS#12315, 2/28/94). For a dairy cow, the dietary burden from a 60% diet of treated grass forage under the current label would be 470 ppm ( $196 \text{ ppm} \times (60\% \text{ diet} / 25\% \text{ dry matter})$ ).

The dietary burden from grazing dairy cows immediately after the limited Roundup® PRO applications, up to 2 qts/A, would be 94 ppm ( $470 \text{ ppm} / 5$ ). The dietary burden immediately after the proposed Roundup® and Accord® applications, 16 oz formulation per acre, would be 23.5 ( $470 \text{ ppm} / 20$ ). A feeding study was conducted where separate sets of dairy cows were fed 36 and 108 ppm glyphosate diets for 28 days. Glyphosate residues in liver and kidney on the 28th day were <0.05 and 0.26 ppm respectively for the 36 ppm diet and 0.07 and 0.79 ppm respectively for the 108 ppm diet. Seven days after the last dose residue levels on liver and kidney dropped to <0.05 ppm for both feeding levels. Glyphosate has also been shown to dissipate in the field at a rate of 84% every seven days (DP Barcode D193761, CBTS#12315, 2/28/94). Given that glyphosate rapidly degrades in the field, and that glyphosate is rapidly metabolized in cattle, residues in animal commodities for the limited Roundup® PRO and the Roundup® and Accord® new uses should not exceed established tolerances.

However, no dietary burden can be determined for the requested unlimited rate Roundup® PRO application with an eight week grazing restriction. The registrant must propose an application rate supported by existing residue data or submit new data for a new rate.

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cc: RF, Reg. Std. File, Amended Use, circ., Cutchin,  
Robert Taylor - PM Team 25 (7505C)

7509C: CBTS, Reviewer (WDC), CM#2, Rm 804P, 305-7990, WDC: 5/13/96

R/I: TPT1, 3/9/96;

Br. Sr. Sci.: R. Loranger, 5/6/96;

Act. Br. Chief: E. Zager, 5/7/96

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United States Environmental Protection Agency  
Office of Pesticide Programs (H7505C)  
Washington, DC 20460

**Application for Pesticide:**

Registration  
Amendment  
Other

OPP Identifier Number

182597

## Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) MON 65005/Roundup® PRO Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____  Product Name _____	

## Section II

<input checked="checked" type="checkbox"/>	Amendment - Explain below	<input type="checkbox"/>	Final printed labels in response to Agency letter dated _____
<input type="checkbox"/>	Resubmission in response to Agency letter dated _____	<input type="checkbox"/>	"Me Too" Application.
<input type="checkbox"/>	Notification - Explain below.	<input type="checkbox"/>	Other - explain below. <i>Revised T.S.C.S.</i>

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submit alternate brandname Roundup® PRO Herbicide and amend label for non-crop use only

### Section III

1. Material This Product Will Be Packaged In:				
Child-Resistant Packaging  <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Water Soluble Packaging  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	If "Yes," Unit Package wgt.      No. per container		If "Yes," Package wgt.      No. per container	
2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____				
* Certification must be submitted.				
3. Location of Net Contents Information  <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) of Retail Container		5. Location of Label Directions  <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner In Which Label Is Affixed To Product  <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other ( _____ )		


## Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name  Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code)  (202) 783-2460

### Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received  
(Stamped)

2. Signature 	3. Title Registration Manager
4. Typed Name Lydia A. Suba	5. Date 6/13/95

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## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A** - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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United States Environmental Protection Agency  
Washington, DC 20460

# Certification with Respect to Citation of Data

Form Approved  
OMB No. 2070-0060  
Approval Expires 11-30-93

**Applicant Name and Address**

Monsanto Company  
700 14th Street, N.W., Suite 1100  
Washington, DC 20005

**EPA File Symbol/Registration Number**

524-475

**Product Name**

MON 65005/Roundup® PRO Herbicide

**Date of Application**

June 13, 1995

**NOTE:** If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
  2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
    - ☒ I am the original submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*
  3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
    - a. ☒ I am the original data submitter\*; or
    - ☐ I have obtained the written permission of the original data submitter to cite that study\*; or
    - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
      - ☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method\*). (Also, sign the General Offer Statement below.)
      - ☐ Those companies that have submitted the studies which I have cited (Selective method\*).
- \* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature

*Lydia A. Suba*

Name and Title

Lydia A. Suba  
Registration Manager

Date

June 13, 1995

**General Offer to Pay:** I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

*380*

The last grazing restriction condition states the following:

- ***There are no restrictions for the following applications -  
For any application rate of this product where livestock can be  
restricted from the treated area for 8 weeks.***

**Justification:**

Residues of glyphosate were also determined in dairy cow tissues and milk following a 28-day feeding<sup>(2)</sup>. Glyphosate and AMPA, a metabolite of glyphosate were not found in milk, muscle or fat samples at any feeding level, even at the high dose of 400 ppm. This study also showed that after 28 days of depuration, the animals dosed with 40, 120 and 400 ppm for 28 days did not have any residue in the liver and kidney.

- Tank Mixing instructions: (page 8). The instructions were modified to suit the non-crop markets.
- Information about corrosion prevention: (last paragraph, page 10 under aerial equipment ). The information regarding prevention of corrosion was taken from the Accord label which is more geared to the non-crop users.
- Chemical Mowing: (page 14). Text for this section may be found in page 20 of the MON 65005 approved label under "Farmsteads" (MON 65005 label is attached).
- Weed Species: (page 20). For non-crop uses, the rates corresponding to each weed specie are not relevant.
- Perennial weeds (page 22) and woody brush and trees (page 23): For the industrial markets, the treatments at the proper stages of growth are not relevant.

---

(2) Residue determination of glyphosate and AMPA in dairy cow tissues and milk following a 28-day feeding study, MRID 40532003.

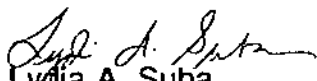
381

Environmental Protection Agency  
June 13, 1995

page 5

An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed. Please stamp one copy of the label indicating approval of Roundup PRO Herbicide and if you have any questions regarding this submission, please contact Dr. Russ Schneider or me at 314-694-2124.

Sincerely,

  
Lydia A. Suba  
Registration Manager

cc: R.P. Schneider  
R.D. Voth  
S.A. Schuette

382

# Monsanto

RECD EPA/OPP/DP01

~~96~~ MAY 17 A4:05

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 15, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Shielded Applicator Use in Grasses Grown for Seed**

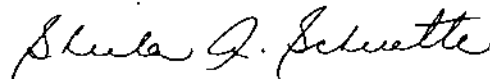
Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows use of shielded applicators in grasses grown for seed production, was approved by the Agency on April 1, 1996. This label will be distributed in Idaho, Oregon and Washington only.

Enclosed are five (5) copies of the label (version 21137U1-26).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider

383



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243127

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Ultra Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: shielded applicator use in grasses grown for seed

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	
				<input type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper, glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____					

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received MAY 17 (Stamped) AG:40 384
2. Signature <i>Sheila A. Schuette</i>	3. Title Manager, Regulatory Affairs		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date May 15, 1996		

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to application for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, II, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III** (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV** (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
  6. EPA Use Only.
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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



NOT REVIEWED  
In Accordance with FR Notice 52-2.  
Based on Draft Labeling Dated 4/1/96

EPA Reg. No. 524-475

### SHIELDED APPLICATOR USE IN GRASSES GROWN FOR SEED IN IDAHO, OREGON AND WASHINGTON ONLY

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

When applied using shielded applicator equipment designed to prevent direct contact, movement of spray droplets, or mist onto desirable grasses grown for seed production, this product may be used to control labeled weeds. Use of low spray pressure through low pressure nozzles will minimize the potential of spray drift.

Apply 1 to 3 quarts of this product as a broadcast spray in 10 to 20 gallons of total spray volume per acre.

Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields.

**GROWER ASSUMES ALL RESPONSIBILITY FOR CROP LOSSES FROM MISAPPLICATION.**

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Ultra herbicide before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21137U1-26

4/1/96

386



# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 7, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Pro Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Use in Poplar Production**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Pro herbicide for your files. This label, which allows use in the production of poplar, was approved by the Agency on April 1, 1996.

Enclosed are five (5) copies of the label (version 21136U1-11).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243123

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Pro Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Use in poplar production

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container If "Yes" Package wgt. No. per container					
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			8. Date Application Received (Stamped)  388
2. Signature Sheila A. Schuette		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date May 7, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

**Block A:** Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Pro herbicide and this supplement.



EPA Reg. No. 524-475

NOT REVIEWED  
In Accordance with PR Notice 32-2,  
Based on Draft Labeling Dated 4/1/96

### ROUNDUP PRO HERBICIDE FOR USE IN POPLAR (*Populus spp.*) PRODUCTION

Keep out of reach of children.

#### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup® Pro herbicide label booklet for essential product performance information.

#### PREPLANT

This product is recommended for use prior to planting *Populus spp.* This includes, but is not limited to, hybrid poplars and hybrid cottonwoods.

See the Roundup Pro herbicide label booklet for specific rates for the weeds being controlled.

#### IN CROP USES

##### DIRECTED SPRAYS

Use a 2 percent spray solution as a spray-to-wet application for the control of undesirable woody brush and trees. To control herbaceous weeds, use a 1 to 2 percent solution. Avoid

contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of the *Populus spp.*

##### WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Pro herbicide solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

**AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION.** Desirable vegetation contacted by the her-

bicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Pro herbicide before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1996

MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21136U1-11

4/1/96

390

# Monsanto

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Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 7, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Pro Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Tank Mixtures for Noncrop Areas**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Pro herbicide for your files. This label, which provides directions for tank mixtures in noncrop areas, was approved by the Agency on April 1, 1996.

Enclosed are five (5) copies of the label (version 21136U1-12).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

cc: R.P. Schneider



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

243122

## Application for Pesticide - Section I

1. Company/Product Number 524-475	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Pro Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/96
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed supplemental labels: Tank mixtures for noncrop areas

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
Certification must be submitted If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)  392
2. Signature <i>Sheila A. Schuette</i>		3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date May 7, 1996	

## PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

**PAPERWORK REDUCTION ACT NOTICE:** Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**INSTRUCTIONS:** This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

**Submission of Labeling** - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

**Submission of Data** - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

**SPECIFIC INSTRUCTIONS:** Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

**SECTION I** - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

**SECTION II** - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

**SECTION III (Packaging and Container Information)** - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Indicate the location of the net contents information for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

**SECTION IV (Contact Point)** - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

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## SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Pro herbicide and this supplement.



EPA Reg. No. 524-475

NOT REVIEWED  
In Accordance with PR Notice 82-2,  
Based on Draft Labeling Dated  
4/11/86

### ROUNDUP PRO HERBICIDE AND TANK MIXTURES FOR NONCROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, UTILITY SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES

Keep out of reach of children.

### CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

©Roundup is a registered trademark of Monsanto Company.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the Roundup® Pro label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

#### TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

<u>Tank Mix Product</u>	<u>Rate per Acre</u>
Arsenal™*	0.5 to 4 pints
Banvel™	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon™ 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar™ X	4 to 8 pounds

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Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar™ I DF	4 to 6 pounds
Krovar I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar I DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar I DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust™	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike™ 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

**Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Pro herbicide before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.**

™Arsenal is a trademark of American Cyanamid Company.

™Banvel is a trademark of Sandoz Crop Protection Corporation.

™Garlon and Spike are trademarks of DowElanco Products Company.

™Hyvar, Krovar and Oust are trademarks of E.I. duPont de Nemours and Company.

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MONSANTO COMPANY  
ST. LOUIS, MISSOURI 63167

21136U1-12

4/1/96

\*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

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# Monsanto

Monsanto Company  
Suite 1100  
700 14th Street, N.W.  
Washington, D.C. 20005

May 7, 1996

Office of Pesticide Programs - H7504C  
Document Processing Desk  
U.S. Environmental Protection Agency  
Room 226A, Crystal Mall #2  
1921 Jefferson Davis Highway  
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor  
Product Manager (25)

Subject: **Roundup® Ultra Herbicide (EPA Reg. No. 524-475)**  
**Submission of Final Printed Supplemental Labels:**  
**Aerial Applications in Arkansas, Louisiana, Mississippi, Missouri**  
**and Tennessee**

Dear Sir:

Monsanto is submitting final printed labels of a supplemental label for Roundup Ultra herbicide for your files. This label, which allows aerial applications of up to 3 quarts/acre, was approved by the Agency on April 1, 1996. This label will be distributed in Arkansas, Louisiana, Mississippi, Missouri and Tennessee only.

Enclosed are five (5) copies of the label (version 21137U1-27).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.  
Manager, Regulatory Affairs  
(314) 694-7248

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